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A PRELIMINARY NOTE ON THE HILL-PANDARAMS OF TRAVANCORE.

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THE Hill-Pandarams are a small tribe found in the Ranni, Konni and Atchencoil Reserved Forests of Central Travancore. Preferring those uninhabited parts abounding in game, they retired before the march of civilization and are now found in localities, where absence of competition gives them greater freedom and more room for their nomadic life. In his " Races of Man " Dr. Haddon refers to some of the Pre-Dravidian tribes of South India as jungle-hunters in a state of savagery with very little, if any, agriculture. The Hill-Pandarams afford a striking illustration and are probably one of the least modified survivals of the ancient Pre-Dravidian race.

Habitations.—Being of a migratory disposition, the Hill-Pandarams have no permanent habitations. Dwellings are of the simplest character, being mere break-winds resting on a jungle-wood post, or small huts made of jungle-wood posts and thatched with wild plantain leaves. A hut can accommodate two or three individuals. They also live in caves.

In no case do they stay in a locality for more than ten days. The extent of stay depends on the availability of natural food supplies. Children above ten years of age do not sleep in the same hut with their parents. There are separate dormitories for the unmarried young men and women.

They enjoy the warmth of a fire at night. In common with other hill tribes, they make fire by friction by means of an apparatus called *chakmuk*. Safety matches are now invading their haunts.

Diet.—Being of a migratory disposition, they do not cultivate land. They live on fish, the fruits of cycas, pith of sago palm, and on any roots and tubers that are handy. When they exhaust their resources of food supply, they migrate to another favoured locality.

Adolescence.—No ceremony is attached to a boy passing into man's estate. When a girl attains puberty, she is lodged in a separate hut for nine days. During this period, no one can see her. On the tenth day, she bathes (the body being rubbed with turmeric) and then goes home. Mothers instruct girls in their daily work.

Marriage Customs.—In common with other hill tribes of Travancore, childhood is of short duration, as a girl is being prepared for the most important occurrence of life, matrimony. Girls reach maturity by twelve, and marriage takes place both before and after puberty. A man marries the daughter of his maternal uncle. Unlike the Muduvans, he is at liberty to marry his paternal aunt's daughter. Prohibition extends to marriage with the daughter of one's mother's sisters or father's brothers.

Child Betrothal.—Girls are betrothed very early in life by their parents; generally a girl of seven or eight years of age is married prospectively to a man of eighteen or twenty, who looks upon her as his wife. I was informed of an instance of a girl betrothed when she was about a year old.

Marriage is arranged for by the boy's father who moots the marriage question to his brother-in-law. Should the match be decided upon, marriage takes place in the bride's house and lasts for a day. The guests are treated to a feast in the evening, to which all the village folk are invited. After feasting comes the ceremony proper, when the bridegroom and the bride are seated before the audience. Presents of new cloth are made to the bride and the bridegroom ties a necklace of beads round the neck of the bride, when his sisters are present. The bridegroom's father then blesses them "May your union be happy". The married couple enjoy the night in a hut specially erected for the occasion, and live separately from the morrow. They are truly monogamous.

Funeral Ceremonies.—The dead are buried where they die. A pit is dug hip-deep. The corpse is disposed east to west in the grave, and covered with plantain leaves. The pit is then filled up with earth. After burial, they leave the locality, and no more go and live there in after-years. Pollution lasts for eight days. On the ninth day, all the men meet. The chief mourner gives a big feast in honour of the dead.

Inheritance--The most primitive type of order of inheritance is that the son succeeds to the ***patria potestas*** on their father's death. It is remarkable that the Hill-Pandarams alone afford us a typical example of this form of inheritance while all the other hill tribes follow the Markmakathayam law of inheritance in Travancore.

Conclusion.—This in short is an account of some of the customs of a people who are on the down-grade of civilization. Being nomadic hunters and collectors of jungle produce, they live in rock-shelters, simple huts or mere break winds and leave them in favour of another, when the resources are exhausted.

They are fast disappearing. They obtain food so abundantly with little labour that they do not suffer from want, that great spur to human progress. Their life of isolation develops in them a narrowness of view and conservation of custom, which prevents them even from associating with neighbouring tribes. The marriage of near relations leads to deterioration, the reason being that they often suffer from the same defects and these are much intensified in the children. It has been stated that the dying out of the aboriginal races when they come into contact with civilization is due to diseases of civilized man, and that tuberculosis and small-pox are the most destructive to the aboriginal. In the case of the Hill-Pandarams, small-pox has been the cause of their gradual extinction. In the words of Inglis Parson, evolution has doomed the inferior races to die out in the presence of a superior race, if the climate is suitable to both.

HAMSASANDESA—A STUDY.

BY K. KRISHNAMACHARYA, ESQ., B.A., L.T.

THAT, in the midst of his voluminous philosophical and didactic works, Sri Venkatanatha, or Sri Vedanta Desika as he is more popularly known, found it possible to leave behind him some poems of no inferior order, like the *Yadavabhyudaya* and the *Hamsasandesa*, is of no small import to all true lovers of Sanskrit literature. In the former he does not appear to have kept before him any model to follow but to have only drawn upon his own constructive skill; but this much cannot be said of the latter. Here the model he had before his mind's eye was certainly Kalidasa's *Meghasandesa*. But it is not a totally slavish imitation of the model he has permitted himself to accomplish. He has left his stamp of originality here and there in the fitting of the details of the poem; and this is transparently evident even to a casual reader thereof. In order to establish this point, I have undertaken here to take the reader through a critical study of his poem, the *Hamsasandesa*, in some detail, instituting as far as necessary a comparison between it and the *Meghasandesa*.

The plan of the poem is based upon Kalidasa's. The meeting of the forlorn lover with the messenger, the thought of the beloved and her forced sufferings from pangs of separated love in a distant corner of the land, the idea of a message of hope to sustain her till the approaching end of the cursed separation, the feeling of brotherly affection towards the messenger, the unbounded faith in the messenger's generosity and capacity to discharge the undertaking, the sight of the auspicious omens, the description of his route, the variety of entertainments to please him on the way, the spiritual experiences in the several sacred places along the route and the incidental service to the Supreme God (Vishnu in this case) elevating the soul of the messenger and proving quite auspicious for the work in hand, the description of the destination, the probable state (physical and mental) of the beloved at the time of the messenger's approach, the anxiety of the lover to see the message delivered timely and without the least disturbance to the already afflicted heart of the beloved, the sweet message itself, the proof of the messenger's genuineness and trustworthiness, and lastly the touching benediction pronounced on the messenger, are the several landmarks in the poem closely followed from the model. On this framework Venkatanatha builds his own edifice of a Kavya, employing his skill in the matter of details of ornamentation.

The originality for the conception of the plan is certainly Kalidasa's. No amount of originality on the part of his successors in the matter of the execution of details on *this* plan can entitle them to dispute the palm with Kalidasa. His title to respect at our hands stands on a different footing altogether. But among those who have aimed at his model the claims for title to recognition are to be determined on the answers to the question—How far have they succeeded in their aims? The idea of a poem embodying the message of a forlorn lover to his beloved through a trusted messenger seems to have suggested itself to Kalidasa by the touching message of Sri Rama to his beloved Sita in the Asokavanika conveyed by the faithful Hanuman, as recorded in the sweet words of that immortal prince among poets, Valmiki himself. But there is a difference between a suggestion worked out into an exquisite poem, and a poem faithfully followed and worked out into a reflection of itself. The plan of the poem, the choice of the metre, the chiselling out of the first details, and their fitting into an original and harmonious whole, æsthetically excellent—these are the indisputable claims of Kalidasa; while such claims cannot, in the very nature of things, be put up by even the greatest of his imitators. We are certain that, if the authors of other Sandesa-Kavyas were pressed to detail their title to recognition, they would not put forth such fantastic claims. Theirs is but a subordinate field; but some of them may, in rare cases, claim our attention to a larger extent than even Kalidasa, in the matter of the details of workmanship. With this clearing of the ground, let us enter into a study of Venkatanatha's poem.

It may be of interest to note here that, between the *Meghasandesa* and the *Hamsasandesa*, almost the whole of India is surveyed from Mount Kailas on the north to Ceylon in the south. Only a small tract between Ramagiri and Mount Malyavan is not covered. In a sense, therefore, Venkatanatha's poem may be said to be complementary to Kalidasa's.

The choice of a swan in the poem is quite appropriate. According to the Ramayana, Rama starts on his expedition against Lanka, only after the advent of the *Sarat*. In this season the swans are believed to come down into the plains from the Manasa lake in the Himalayas, and move to the extreme south of the land.

In order that a poet may be rightly judged, one has first to find out what the Sanskrit Rhetoricians aptly call *Kavi-hridaya* (the poet's mind), or in other words, the motive of the poem. This *Kavi-hridaya* is at times easy of determination by means of a careful study of the character of the hero of the poem. For his *Meghasandesa* Kalidasa selected a hero of the *Dhiralalita* type in the banished Yaksha (निश्चिन्तो धीरललितः कलासक्तः सुखीमृदुः). In our

mythology the Yakshas are pictured to be a type of beings between the human and the divine. They are more divine than human. They are fabulously rich and are the subjects of King Kubera, the Lord of Treasure-Troves. They have infinite facilities and an inherent capacity to enjoy pleasure in all its aspects. Wealth, wine and women are the be-all and end-all of their existence. To suit the experiences of a hero of that type, Kalidasa has had to build up his poem on a substratum of the sensuous, but with a happy blending of the supersensuous here and there, because of the partial divinity also of the hero. The lines like

मध्येश्यामः स्तनइव भुवः शेषविस्तारपाण्डुः,
or सभ्रूभङ्गं मुखमिव पयो वेत्रवत्याश्चलोर्मि,
or लोलापाङ्गैर्यदि न रमसे लोचनैर्वञ्चितोसि,
or संसर्पन्त्याः स्खलितसुभगं दर्शितावर्तनाभेः,
or even ज्ञातास्वादः पुलिनजघनां को विहातुं समर्थः,

are quite appropriate for the poem. If, after choosing an Yaksha for his poem, Kalidasa did not bring in the sensuous to the extent he has done, his work would have been classified as of some inferior order, and would not have gained the present enviable distinction.

But Venkatanatha has chosen for his poem the immortal hero of the Ramayana. He is of the *Dhiro-dātta* type.

(महासत्त्वोऽतिगम्भीरः कृपावानविकत्थनः ।
स्थिरोनिगूढाहंकारो धीरोदात्तो दृढव्रतः ॥)

In one place, Valmiki himself puts the characteristics of his hero into the mouth of the selfless Hanuman, who revels in describing him as

रक्षिता सर्वलोकस्य स्वजनस्य च रक्षिता ।
रक्षिता स्वस्य वृत्तस्य धर्मस्य च परन्तपः ॥····
मर्यादानां च लोकानां कर्ता कारयिता च सः ।····
अर्चिषानर्चितोत्यर्थं ब्रह्मचर्यव्रते स्थितः ।
साधूनामुपकारज्ञः प्रचारज्ञश्च कर्मणाम् ।
श्रुतवान् शीलसम्पन्नो विनितश्च परन्तपः ।
सत्यधर्मपरः श्रीमान् संग्रहानुग्रहे रतः ।
देशकालविभागज्ञः सर्वलोकप्रियंवदः ॥

And the purpose of Venkatanatha is but to popularize such a hero without taking away a whit from his characteristics, so glowingly painted in the immortal Epic. One cannot therefore logically expect, in the *Hamsasandesa*, an atmosphere surcharged with the sensuous. But occasionally, as we shall see, there is a skilful touch of the sensuous, without in any way rousing a sense of revulsion in the minds of the readers as being incongruous to the

setting of the whole poem. A poet, who indulges in descriptions inappropriate to the characteristics of his hero, justly lays himself open to the charge of being wanting in the sense of proportion. The few sensuous touches in the *Hamsasandesa* are necessitated by the exigencies of the situation. The hero, Sri Rama, is a separated lover and he is in the midst of his preparation for a gigantic expedition against his deadly foe Ravana, from whose base hands he is anxious to rescue in time his loving Sita. During moments of respite, he allows his mind to dwell on his Sita and her sufferings, or on those happy times he passed in her company before her captivity. His mind is, therefore, temporarily attuned to the sensuous on occasions. Hence the few touches like स्तोकोन्मग्नस्फुरितपुलिनां त्वन्निवासेच्छयेव enhance the beauty of the poem as a whole.

As one who has drunk deep of Valmiki's Epic, Venkatanatha has, in his *Hamsasandesa*, undertaken to present to us what he considers to be the sweetest of the thoughts of that hoary sage. And for this he has chosen a vehicle on the model of Kalidasa's. He has of necessity to adjust himself to the two master-minds, without at the same time a complete effacement of his own individuality. His self-imposed task has therefore become doubly difficult. And, if under such limitations, he has yet been able to make his poem appeal to us, his title to respect at our hands stands certainly on an unshakeable foundation.

Hanuman has just returned to Mount Malyavan, after delivering Rama's message to Sita, who is pining in grief in a corner of Ravana's pleasure garden. And in token of his achievement he has not only brought Sita's crest-jewel, but also an urgent return message to her Lord that she would not wait a whit longer than a month at the most, before he could go and rescue her from the hands of the Rakshasa king.

धारयिष्यामि मासंतु जीवितं शत्रुसूदन ।
मासादूर्ध्वं न जीविष्ये त्वया हीना नृपात्मज ॥

Rama is therefore anxious to see that his projected expedition to Lanka is finished within the limited period, so desperately indicated by his Sita. A day's delay would spell disaster. When he is in such a state of mind, his eyes rest on a welcome swan in a sportive mood, in one of the lotus-tanks close by. The sight of the swan revives in his mind a happy memory of Sita. The bird has several points of affinity to her: its noble gait is just like Sita's; the spotless white of its feathers is nothing inferior to the dazzle of her silken garb; the note of its sweet sound resembles the tinkle of her anklets. Hence Rama's mind is totally absorbed in the bird, and for a time surrendering himself as a helpless victim of Cupid's shafts,—he falls into an

unbroken state of love-reverie forgetful of every consideration other than that of his beloved.

तस्मिन् सीतागतिमनुगते तद्दुकूलाङ्कमूर्तौ
तन्मञ्जीरप्रतिमनिनदे न्यस्तनिष्पन्ददृष्टिः ।
धीरश्चेतोविलयमगमत्तन्मयात्मा मुहूर्तं
शङ्के तीव्रं भवति समये शासनं मीनकेतोः ॥

Unlike the Yaksha in the *Meghasandesa*, who, on the mere sight of the cloud, is driven to dream of his beloved, Rama has stronger reasons here to lose himself in the thoughts of his Sita, because of the assemblage of certain resemblances to things closely associated with her.

With some difficulty he recovers himself, remembering that he is लक्ष्मणस्याग्रजन्मा. For on more than one occasion he had to be reminded by Lakshmana of his unheroic exhibition of weaknesses incompatible with his nobility and strength of mind. Did not Lakshmana try to dispel his mental gloom telling him

शोकेनाभिप्रसुप्तं ते ज्ञानं सम्बोधयाम्यहम् ।
and महात्मानं कृतात्मानमात्मानं नावबुध्यसे ॥

on two painful occasions, when he was addressing, in his temporary madness, rocks and trees on the whereabouts of Sita soon after she was carried away from Panchavati ? He does not want to give similar trouble to his brother on this occasion too.

Naturally Rama feels a friendly attachment to the swan, more friendly than even Hanuman's, and thinks of utilizing his services to cheer up Sita, with the news of his immediate approach at the head of a powerful army capable of destroying the whole Rakshasa band. Whether a bird can convey a human message does not trouble him for a moment, since his afflicted heart is not inclined to follow that stern logic of the sane. Nor do we wonder at this exhibition of weakness on the part of Rama, because

विश्लेषणक्षुभितमनसां मेघशैलद्रुमादौ
याञ्चादैन्यं भवति किमुत क्वापि संवेदनार्हे ।

We have already had the instance of an Yaksha in a suppliant attitude before a cloud, which is but inanimate ; and in the freshness of Sita's loss Rama himself did not fare better. Did he not appeal, in the words of Valmiki, to an equally inanimate mountain

कच्चित् क्षितिभृतां नाथ दृष्टासर्वाङ्गसुन्दरी ।
रामा रम्ये वनोद्देशे मया विरहिता त्वया ?

and to the trees

कदम्ब यदि जानीषे हंससीतां शुभाननाम् ।....
यदि ताल त्वया दृष्टा पक्वतालफलस्तनी....

and so on ?

But in the present case it is an animate being, a swan, he is addressing and it is undoubtedly संवेदनार्ह unlike rocks and trees. He has hitherto experienced something of the संवेदनार्हत्व of the animate beings. When he was questioning the animals of the forest whether they had any knowledge of Sita's whereabouts, did they not help him by certain physical movements of theirs, deeply indicative of their anxiety for their loveable companion, Sita ?

एवमुक्तानरेन्द्रेण ते मृगास्सहसोत्थिताः ।
दक्षिणाभिमुखास्सर्वे दर्शयन्तो नभस्स्थलम् ।
मैथिली ह्रियमाणा सा दिशं यामन्वपद्यत ।

Therefore it is that Rama sees in the हंस an अव्याजबन्धु and has no hesitation to apply to him for assistance in his present plight. He is certain his request will not go unheeded, because the Hamsa has a noble heritage, and he might have also heard that the very Lord of Creation had once come down as a mere charioteer for a noble end.

सर्वस्रष्टा विधिरपि यतः सारथित्वेन तस्थौ ।

Without much ado he tells him straight that he has to go to Lanka, the capital city of the Rakshasa King, on a sacred errand. The rainy season having finished, the *Sarat* has come back, and with it the Hamsa has come down from the North. There is yet the likelihood of his voyaging further South in search of fresh lotus-ponds, where undisturbed he can enjoy himself. But if he is to be reminded that the extreme South is the haunt of the Rakshasas, he may perhaps change his mind. So Rama assures him that he can easily overlook this one demerit of the South, in the midst of its several merits.

स्थानैर्दिव्यैरुपचितगुणां, चन्दनारण्यरम्यां,
मुक्तासूतिं, मलयमरुतां मातरं, दक्षिणाशाम् ।
अस्मत्प्रीत्यै जनकतनयाजीवितार्थं च गच्छन्
एकं रक्षः पदमिति सखे दोषलेशं सहेथाः ॥

The very mission on which he goes is sacred, जनकतनयाजीवितार्थं, and for a good cause one can submit oneself even to an irksome inconvenience. Therefore the one defect can easily be excused (एकोहि दोषो गुणसन्निपाते निमज्जति).

Having himself treated him as an honoured guest, Rama is certain that the Raja-hamsa will receive a royal attention wherever he goes. Already the south wind has come as a faithful friend to welcome him with sweet

scents freshly gathered from the blossoms of lotuses and lilies. The light transparent autumnal cloud, with the straight rays of the sun shot through it like so many ribs radiating from a centre, and borne by the wind over his head, will just look like a state umbrella held over a royal personage.

सूक्ष्माकारैर्दिनकरकरैः कल्पितान्तश्शलाकाः
शारोपान्ताश्शतमखधनुश्शेष चित्रांशुकेन ।
ऊढाः पश्चादुचितगतिना वायुना राजहंस
छत्रीयेरन्नभसि भवतश्शारदा वारिवाहाः ॥

Those, who are wont to watch the sunrise and sunset, will, with pleasure, remember the indescribable brilliancy of the wonderful pictures of nature they may have occasionally feasted their eyes upon. On one such evening, the writer had the fortune of witnessing an unforgetable sight which continues fresh in his memory. The sun was about to set, his lower limb just kissing the horizon. A thick cloud just covered the face of the luminous orb. Around it there was a thin belt of clouds through which the rays of the setting sun radiating in several directions could be distinctly seen. Around this belt again there was a semi-circular belt of somewhat thicker clouds, the outer ends of which were of a brilliant golden hue. The picture vividly brought to the writer's mind by this splendid natural phenomenon was that of an open temple-umbrella laid on the ground to face the East. The beautiful verse of Venkatanatha makes, therefore, a peculiarly happy appeal to his imagination.

Now to proceed. Before he should start, the Hamsa is to take a loving leave of his beloved the Padmini (the lotus creeper, here spoken of in the feminine), to whom he has now come back after a long and forced exile, and who is therefore in the midst of her unbounded joy. He is advised to gently cajole her into giving him leave to part, so soon after the reunion, and to promise her an early return.

प्रक्षीणां त्वद्विरहसमये जातहर्षामिदानीं ।
प्रत्यायास्यन्ननुनय शनैः पद्मिनीं स्वादु वाचा ।

But would the leave be granted ? Rama has no doubt of it, for

सा ते तन्त्रीस्वनसुभगया स्यादितीहाभ्यनुज्ञां
मन्ये कुर्यान्मधुकरगिरा मैथिलीसौहृदेन ।

The Hamsa's beloved is a Padmini, and so is Sita. Therefore there has sprung up between them a strong friendship. Women are generally supposed to sympathize more than men with women in distress, since it is only a woman who can appreciate a woman's heart more than a man. That is why perhaps Kalidasa's Yaksha asks his messenger, the cloud, not to threaten

the timid अभिसारिकाः of Ujjayini with his fearful thunder, but to let his lightning show them the way to their lovers on the dark roads of the city. (The lightning is spoken of in the feminine, as the spouse of the cloud.)

सौदामन्या कनकनिकषस्निग्धया दर्शयोर्वीं
तोयोत्सर्गस्तनितमुखरो मास्मभूर्विक्लबास्ताः ।

Almost the same idea has been beautifully brought out, even in the *Ritusamhara*, implying that, while the cloud does all it can to stand in their way, it is the lightning that is of real service to the poor women who are out to meet their lovers in a darksome night.

अभीक्ष्णमुच्चैर्ध्वनता पयोमुचा
घनान्धकारीकृतशर्वरीष्वपि ।
तटित्प्रभादर्शितमार्गभूमयः
प्रयान्ति रागादभिसारिकास्स्त्रियः ॥

And in the *Mrichchakatika*, the idea is more explicit in the beautiful couplet, where Vasantasena gently chides the lightning for its indifference.

यदि गर्जति वारिधरो गर्जतुतन्नाम निष्ठुराः पुरुषाः ।
अयि विद्युत् प्रमदानां त्वमपि च दुःखं न जानासि ? ॥

When such is the sympathy of women for even strangers of their sex, what may be the sympathy for a sister of blood? Need we say that this touching farewell of the Hamsa is far finer than the one of the Megha in the sister poem?

(आपृच्छस्व प्रियसखमसुं तुङ्गमारुह्य शैलं, etc.)

When a loving parent sends his child on an errand to a distant place, he is particularly anxious that his child avoids the path of the wicked lest it should court danger to its person. No less is the anxiety of Rama when he advises his lovely Hamsa that he should

उड्डीयेथास्सारसि जवनाद्दक्षिणाशानुसारी
पश्यन् दूरात् प्रबलगरुतां पक्षिणां दत्तवर्त्मा ॥

As the Hamsa springs up in the air from the top of the Malyavan, the mountain carrying the white reflection of the bird is sure to resemble, for once, the Lord of Creation, Sri Maha Vishnu, just letting out the Moon from his mind, as described in the *Purusha Sukta* (चन्द्रमामनसो जातः). This picture is evidently in imitation of the picture of the cloud in the *Meghasandesa*, so finely brought out in the lines

येन श्यामं वपुरतितरां कान्तिमापत्स्यते ते
बर्हेणेव स्फुरितरुचिना गोपवेषस्य विष्णोः ।

Venkatanatha's picture rests on a convention that all mountains carry on them precious stones capable of reflecting the objects around (मणिमयो माल्यवानिव शैलः). Hence the little unnatural atmosphere about it, as against Kalidasa's.

In his ærial flight the Hamsa will have a variety of sights to keep his eyes pleasantly engaged, not the least of them being the unskilled but loveable looks of the country women (पामरीणां) directed on him, as an object of wonder (अभ्रूभङ्गेप्यधिकसुभगैर्निश्चितांगः कटाक्षैः). Here again the influence of the master-mind is distinctly seen (भ्रूविलासानभिज्ञैः प्रीतिस्निग्धैर्जनपदवधूलोचनैः पीयमानः).

In the districts bordering on the Andhra on the one side and the Karnata on the other, the Hamsa's ears cannot but be attracted to the beautiful songs of the love-laden maidens of the peasant class lying under the spreading branches of the hospitable mango trees, while they guard their rice-fields from the treacherous birds and other pests. The first sight of importance there will undoubtedly be that of the Hills of Tirupati. The appellation Seshadri rightly fits them, from their serpentlike shape. The tops of these hills carry a layer of red sandal stones which looks like बद्धरत्नैरिशरोभिः—a happy idea.

It is considered quite auspicious to offer prayers in a temple, when one is starting on a long travel. If the prayer is not offered at the time of the start, every opportunity that presents itself on the way is at least availed of, even when the object of the travel is not a pilgrimage. Hence the Hamsa is directed to join his prayers to those of the devotees already assembled in the temple of Venkateswara (of peculiar interest to Venkatanatha, our poet).

The Sanskrit poets have always revelled in harmoniously blending the beautiful in Nature with the beautiful in the human and in the divine. One of the finest of devices which they generally employ for this noble end is what the writers on Sanskrit poetics term as *Dhwani*. A suggestion is thrown out by a central word or two in the piece, and it works itself out into a beautiful picture in the reader's mind, apart from, or distantly associated with, the idea in the context. The wonderful pliability of the words, coupled with a few well-recognized conventions, infinitely enhances the adaptability of the language in the hands of a skilled poet, for such a pleasing effect. Certain objects are always spoken of in the feminine, and certain others in the masculine, as we already saw in the case of the Cloud and its Lightning. And a dexterous handling of such words does throw out a happy suggestion, here and there, indicative of some picture or other of the poetic experiences in the nobler sexual or other human relations. One such happy ध्वनि we have in the description of the river Suvarnamukhari.

Rama has no doubt that, while his messenger is about to leave Seshadri, his eyes would be riveted on the inviting sands of the Suvarna-mukhari, which flows a few miles to the south thereof, in a maidenly gait, carrying in its waves fresh flowers from trees on either of its banks, as though for the worship of Sri Kalahastiswara, farther down,

स्तोकोन्मग्नस्फुरितपुलिनां त्वन्निवासेच्छयेव
द्रक्ष्यस्यारात् कनकमुखरीं दक्षिणामञ्जनाद्रेः ।
आसन्नानां वनविटपिनां वीचिहस्तैः प्रसूना-
न्यर्चाहेतोरुपहरति या नूनमर्धेन्दुमौळेः ॥

This happy picture of the river suggests to our mind a still happier picture of a young woman in love, who, fresh from her bath, wends her way to the temple of her favourite god with an offering of flowers held in her palms in all devotion, and who, as if her prayers have been already answered, meets her very lover on the way and invites his looks of love on her rounded features skilfully exhibited to advantage, as though all unconscious.

The Hamsa will not have the strength of mind to pass the beautiful river, without for a time enjoying himself on her sands. Even if he should, with an effort, suppress his ardent desire for the moment, it is sure to hang heavily in his heart, to the detriment of the errand he is on. Therefore it is that Rama wisely advises him to spend some joyous moments, besporting himself undisturbed on the cool sands of the river, even as happy lover forgets himself in the bewitching arms of his love, in a delightfully secluded spot.

निर्विश्यैनां निभृतमनभिव्यक्तमञ्जुप्रणादो
मन्दाधूतः पुलिनपवनैर्वञ्जुलामोदगर्भैः ।
अव्यासङ्गः सपदि पदवीं संश्रयान्यैरलङ्घ्यः ।

When once his heart's desire is gratified, there is no danger of his mind ever straying away from the sacred mission in hand. That he may not linger too long on the sands of the river even after a hearty enjoyment thereof, Rama finds it expedient to administer a gentle warning of a danger to his person, बन्दीकुर्युस्तटवसतयो मा भवन्तं किराताः, since nothing else seems to be effective under such circumstances. But in the sister poem, though the Yaksha feels that several sights may attract the eyes of his messenger to the serious detriment of his mission, he simply reconciles himself to the situation, and leaves it to the good sense of the messenger with but a mild reminder that

मन्दायन्ते न खलु सुहृदामभ्युपेतार्थकृत्याः ।

On entering the tract of the country known as Tundira Mandala, the first to attract the attention of the Hamsa will be its premier city, Kanchi,

which is but the *Kanchi* (the golden girdle) of the Goddess of the Earth on which rest always riveted the amorous looks of her Lord, Hastisailesa, to the exclusion of all other objects of interest. There the Hamsa will perhaps recognize the Goddess, Saraswati, who according to a local legend assumed the form of a river and flowed in seven different torrents to destroy a sacrifice begun without her by her husband Brahma whose trusted vehicle was the great founder of *his* line of water-birds.

स्वामिनीवः कवीनां वेगासंज्ञां वहति महतीं वल्लभा पद्मयोनेः ।

There is a suggestion in the line that Saraswati is the patron deity of the poets. There is again another suggestion in the first part of the stanza. The words सप्तभेदैः, वर्णस्तोमैः परिणता, स्वच्छस्वादुप्रसरसुभगा, as applied to the river, indicate the scientific truth of the white colour of the sun's rays being possible of separation into the seven prismatic colours. The legendary seven horses of the Sun's chariot are but an allegorical presentation of the same truth.

After a sacred bath in the Saraswati tank, the Hamsa is promised an internal शुद्धि to correspond to the external one he is already fortunate in.

वक्ष्यस्यन्तर्बहिरपि परां शुद्धिमक्षेपणीयाम् ।

In this connection, it is worthy of note that a like reformation is promised to the cloud by Kalidasa's Yaksha too. Strange to say, the sacred waters there too go by a similar name (those of the river Saraswati). But the cloud, which is but dark externally, is to rest satisfied with only an internal शुद्धि as against the fortune of the Hamsa.

अन्तश्शुद्धस्त्वमपि भविता वर्णमात्रेण कृष्णः ।

The swans are supposed to be in fear of the rain-clouds. Therefore it is that Rama gives a humorous hint to his messenger, that he need not hesitate to approach on the top of the Hastisaila the dark cloudlike figure of Sri Varadaraja with his lightning-like consort Lakshmi, mistaking Him for a rain-cloud. Once there, he will have an opportunity for a good turn, if the God be then strolling about in His garden in company with His spouse. Let Him be served in the best way suited to the occasion.

व्यक्तो वालव्यजनवपुषा वीजयेस्तं त्वमेव ।

Such a rare opportunity of service to the Lord of the Universe should not be let slip inadvertently.

A similar service enjoined on the Megha in the sister poem is undoubtedly the inspirer of the service here. The chivalrous solicitude of Sambhu to the tender susceptibilities of his consort Gauri which obliges him to give up his dear भुजगवलयं, the suggested beauty of Mount Kailas in the midst of the wild grandeur of the lofty Himalayas, and the selection of Gauri, the

Mother of the Universe, as the object of service as against the masculine Sambhu, give a peculiar poetic flavour to the superfine stanza of Kalidasa

हित्वा तस्मिन् भुजगवलयं शम्भुना दत्तहस्ता, etc.,

when compared to which, we are constrained to say, Venkatanatha's

मध्वासत्तं सरसिजमिव खिन्नमालम्बमानः, etc.

palls on our ears.

Some two experiences are rather prominently referred to in more than one place, in the *Hamsasandesa*. One is the somewhat envious and unchivalrous treatment of a really good poet by some unscrupulous contemporaries of doubtful virtues. From his own life it is gathered that Venkatanatha was not a stranger to such experiences. The other is the splendour of the then royal processions that must have had a lasting spectacular effect on the humbler souls, not given to much material prosperity. In as many as three places the first is referred to. Rama holds out to his messenger the prospect of a pardonable pride at the sight of the now forced silence of the peacocks which were once eloquent in his absence from the land (वाचालानामिव जडधियां सत्कवौ दूरयाते ।). Again while crossing the forest between Chola and Pandya, awfully noisy on account of the presence therein of myriads of crickets, the Hamsa is advised to maintain a dignified silence, for शब्दायन्ते नखलु कवयस्सन्निधौ दुर्जनानाम् । And last but not least, is the unenviable life of Sita in the Asokavanika, which suggests to the mind of Rama the fate of the words of a good poet in a company of the wicked (सूक्तिं रम्यां खलपरिसरे सत्कवेः कीर्त्यमानाम् ।).

SURYAPRAGNAPTI.

By Dr. R. Shama Sastry, B.A., Ph.D., M.R.A.S.

(*Continued from Vol. XVIII, No. 2.*)

The Nakshatras and Their Zodiacal Circle.

The reason why we divide the zodiacal circle into 109800 divisions is this :—

There are three kinds of stars; those that are of complete day and night area, those that are of one-half area and those that are of $1\frac{1}{2}$ area. Those that are of complete area are fifteen as :—

1. Śravaṇa	6. Kṛittika	11. Hasta
2. Dhanishṭha	7. Mṛigaśirah	12. Chitra
3. Pūrvābhādrapada	8. Pushya	13. Anūrādha
4. Revati	9. Magha	14. Mūla
5. Aśvini	10. Pūrvaphalguni	15. Pūrvāshāḍha

Those that are of one-half area are six :—

1. Śatabhishag	4. Āślesha
2. Bharaṇi	5. Svāti
3. Ārdra	6. Jyēshṭha

Those that are of $1\frac{1}{2}$ area are also six :—

1. Uttarābhādrapada	4. Rohiṇi
2. Uttaraphalguni	5. Punarvasu
3. Uttarāshāḍha	6. Viśākha

Now in conformity with the diameter of the area of each of the stars, we divide the whole day into 67 parts and assign 67 parts in full to each of the stars having complete area. There being 15 such stars, the number of parts of them all comes to $67 \times 15 = 1005$ parts.

Those that are of $\frac{1}{2}$ area give	$\frac{67}{2} \times 6 = 201$ parts.
Those of $1\frac{1}{2}$ area give	$100\frac{1}{2} \times 6 = 603$ parts.
Abhijit gives	21 parts.
	Total 1830 parts.

This is for half a circle. So we multiply this by 2 to have the divisions of a complete circle. Hence the product comes to $1830 \times 2 = 3660$, *i.e.*, 3660 parts of a whole divided into 67 parts. Reducing them to Muhurtas we have $3660 \times 30 = 109800$ parts of a muhurta divided into 67 parts.

The Nakshatras and New Moons.

Now there are two sets of stars, one set to the south of Meru and the other set to the north of Meru. Hence two sets of each of the 28 stars. The

two Abhijits come in contact with the moon only in the morning on the 44th new moon day in each cycle. This is explained by the following ancient Karaṇa verse :—

If we are to find out the number of tithis or lunar days in the middle of a cycle, we multiply the number of past lunar months by 30 and divide the product by 62. Then we multiply the remainder by 61 and divide the product by 62. The remainder will denote the measure. Of the tithis on the day for example :—

Now 44th new moon means 43 lunar months and a Parva or half a lunar month.

$\therefore$ The number of tithis are $43 \times 30 + \frac{1}{2} \times 30 = 1305$. Dividing this by 62 we have $\frac{1305}{62} = 21\frac{3}{62}$. We reject 21 and take the remainder 3 and multiplying it by 61 divide it by 62. Hence we have $3 \times \frac{61}{62} = 2\frac{59}{62}$. We reject 2. Hence we say $\frac{59}{62}$ parts are occupied by the new moon tithi on that day.

We have already explained the Karaṇa method to find out the star on new moon or full moon days. Here for example we employ the same constant $66 + \frac{5}{62} + \frac{1}{67}$. Multiplying this by 44, we have $2904 + \frac{220}{62} + \frac{44}{67}$. From this we deduct $442\frac{46}{62}$ being the correction for stars from Punarvasu to Uttarāshāḍha. Then what remains is $2462 + \frac{174}{62} + \frac{44}{67}$. From this we take as many complete revolutions as possible, one revolution being equal to $819 + \frac{24}{62} + \frac{66}{67}$.

Thus removing three revolutions we have $6 + \frac{87}{62} + \frac{47}{67}$ as remainder.

Hence we may say that the 44th new moon takes place when in the Abhijit star there have elapsed 6 muhūrtas, 37 sixty-secondths of a muhūrta and 47 sixty-sevenths of one sixty-secondth part of a muhūrta.

Now with regard to Lakshaṇa samvatsaras or ideal years :—These are of five kinds : Nakshatra, lunar, Karma or Ṛitusamvatsara, solar, and the intercalary lunar year. The ideal Nakshatra year is that in which the full moons terminate the moon's stay at the close of the month in the area of that star which lends its name to the month, as for example Āshāḍhi, *i.e.*, the month in which the moon completes his stay in the Āshāḍha star at the close of the month. Likewise the characteristic of Nakshatra year must also be such that its months correspond not only with the stars, but also with the seasons which correspond to the months such as Āshāḍha with hot season. That year in which the stars and the months indicated by the stars of month-names are at divergence and in which heat, cold, and disease cause much suffering is called the lunar year by ancient teachers. The characteristic or Lakshaṇa karma-samvatsara is that in which trees produce untimely fruits and flowers. The characteristic solar year is that in which agricultural produce and water are on a par and conducive to the well-being of the

people. That year in which all tanks, lakes and pits become filled with water is styled characteristic intercalary lunar year by ancient teachers.

Now with reference to the Saturn year :—

This is of twenty-eight kinds, such as Abhijit Saturn year, Śravaṇa Saturn year, up to Uttarāshāḍha Saturn year. That year in which the Saturn unites with Abhijit is called Abhijit Saturn year ; and so on with other stars. The great planet Saturn completes the circle of stars in the course of 30 years. This year, *i.e.*, the cycle of 30 years, is called Saturn year.

The Gates of the Stars.

Those stars which do good to a man going towards the east are termed stars of eastern gates. They are the seven stars from Kṛittika. Anūrādha and other seven stars are said to be of southern gates. There are others who differ in this view and term other stars to be of eastern or southern gates.

Just as there are said to be two suns and two moons in the Jambudvīpa, so it is said that there are 56 stars.

The Area of Stars.

Stars may be of whole area, half area, or one and half area. Those stars which move through the same area as the moon moves in a day are said to be of whole area. They are Śravaṇa, Dhanishṭha, Pūrvabhādrapada, Revati, Aśvini, Kṛittika, Mṛigaśirah, Pushya, Magha, Pūrvaphalguni, Hasta, Chitra, Anūrādha, Mūla, and Pūrvāshāḍha.

Those which move half the area the moon moves are of half area and they are Śatabhishak, Bharaṇi, Ārdra, Āślesha, Svāti and Jyēshṭha. Those which have $1\frac{1}{2}$ area are Uttarabhādrapada, Uttaraphalguni, Uttarāshāḍha, Rohiṇi, Punarvasu, and Viśākha.

The day is divided into 67 parts in order to determine the area of the stars. Those stars which have whole area are given $\frac{1}{67}$ part of the circle each. The stars of half area, $1/33\frac{1}{2}$ part each. The stars of $1\frac{1}{2}$ area are assigned $1/100\frac{1}{2}$ part each. For Abhijit, $\frac{21}{67}$ parts.

The stars of whole area are 15. Hence $67 \times 15 = 1005$ parts. Those of half area are 6. Hence $6 \times 33\frac{1}{2} = 201$. Those of $1\frac{1}{2}$ area are 6. Hence $6 \times 100\frac{1}{2} = 603$. Abhijit has 21. Hence the sum of all these = 1830 parts contained in half the circle. Similar parts in the other half. Total parts = 3660, *i.e.*, day parts moved through by the stars in the northern and southern circles of Meru by 56 stars.

Thus Jaina astronomers believe in two sets of 28 stars corresponding to their two suns and two moons.

Now regarding the question which of the stars combine with the moon in the morning, which in the evening, and which at both times, Mahāvīra says that there is no such hard and fast rule. He says that of the 56 stars

the two Abhijits combine in every cycle with the moons only in the morning on the 44th new moon day. The proof of this is as follows :—For this we have to know the process of ascertaining the Tithis, as stated by ancient teachers :—We multiply the number of all the elapsed lunar months by 30 and divide it by 62. Then we multiply the remainder by 61 and divide it by 62. The remainder is the measure of the tithi.

For example :—

The tithi measure on 44th New Moon is to be ascertained. Here 43 lunar months are past and also one Parva. Hence 43 is to be multiplied by 30 and 15 of the additional parva to be added to it.

$43 \times 30 + 15 = 1305$. Now $\frac{1305}{62} = 21\frac{3}{62}$. Here take the remainder 3 and multiplying by 61 divide the product by 62. Hence $3 \times \frac{61}{62} = \frac{183}{62} = 2\frac{59}{62}$; that is $\frac{59}{62}$ parts of day is the measure of the New Moon on the day.

The method of finding out the star on the new moon or full moon day has already been noticed. The constant employed here is $66 + \frac{5}{62} + \frac{1}{67}$. Multiply this by 44 for determining the star on the 44th new moon. $44 \times (66 + \frac{5}{62} + \frac{1}{67}) = 2904 + \frac{220}{62} + \frac{44}{67}$. Then deduct $442\frac{46}{62}$ from the above for correction for stars from Punarvasu to Uttarāshāḍha. Then remains $2462 + \frac{174}{62} + \frac{44}{67}$. Then deduct again $819 + \frac{24}{62} + \frac{66}{67}$ from it for correction for the stars from Abhijit onwards. Here we multiply the quantity to be deducted by 3 to include in it the three-fold correction. Hence $(2462 + \frac{174}{62} + \frac{44}{67}) - 3\ (819 + \frac{24}{62} + \frac{66}{67}) = 6 + \frac{87}{62} + \frac{47}{67}$.

That is, the new moon is completed when so much has elapsed in the Abhijit star.

Now Gautama asks Mahāvīra where the first full moon of the 62 full moons and 62 new moons in a cycle gets completion. Mahāvīra says that a circle through all the stars inclusive of the point where the final full moon of the past cycle is completed should be drawn and divided into 124 equal parts. At the 32nd division from the point of the last full moon, the first full moon will be completed. Likewise the 2nd full moon will be completed at the 32nd division of the 124 divisions, into which the circle from the point of first full moon through all the stars is divided. Similarly the 3rd and the 12th also. The 12th from the first is the 9th from the 3rd. Now $9 \times 32 = 288$. That is the 288th division repeatedly counted in the circle divided into 124 parts.

The proof of this is as follows :—Describe a circle so that the point of the final 62nd full moon of the past cycle is on the circumference. Divide it into 124 parts, the point of the final full moon being the first division. Then the 32nd from it is the place of the first full moon. Now 62 are the

full moons in a cycle. Hence $62 \times 32 = 1984$. Divide this by 124. The quotient is 16. That is, the moon goes 16 rounds in the circle to make 62 full moons.

Now regarding the question where the last full moon of the cycle is completed, Mahāvīra graphically describes it as follows :—

Imagine a circle in the sky above the Jambudvīpa. Divide this circle into 4 parts by drawing diameters. Then make thirty-one divisions in each of the four quadrants by drawing diameters N.-E. to S.-W. and S.-E. to N.-W. Here in S.-E. quadrant there are 31 divisions. Of these the moon completes 27 divisions and $\frac{18}{20}$ parts or kalas of the 28th division, leaving $\frac{3}{31}$ divisions and $\frac{2}{20}$ of the 28th division also without completing when the final 62nd full moon is made.

The Sun and the Full Moons.

Now regarding the question, at what place does the sun complete the first full moon, we say that he does so at the 94th division from that point where he completed the final full moon of the previous cycle, the circle being divided into 124 divisions. The reason for this is as follows :—

The lunar month is $= 29 \frac{32}{62}$ days. Hence before the sun completes the 30th day, *i.e.*, when there are $\frac{30}{62}$ parts of a day more to be completed, the full moon takes place.

Regarding the 2nd full moon we proceed similarly :—He completes it at the 94th division from the point of the first full moon, the circle being divided into 124 divisions.

Similarly for the 3rd and the 12th full moon.

The 12th full moon from the 1st is the 9th full moon from the 3rd. Hence $94 \times 9 = 846$, *i.e.*, 846th division, in other words 102nd division from the point of the 3rd full moon, $(6 \times 124) = 744$, 6 times 124 divisions being completed.

Similarly the final full moon at 62×94th division. Now $62 \times \frac{94}{124} = 47$, that is, the same place where he completed the final full moon of the previous cycle. Here also there will remain $\frac{3}{31} + \frac{2}{31 \times 20}$ parts of the 124 divisions untraversed by the sun.

The Moon and the Sun and the New Moons.

Now in reply to the question, where does the moon complete first new moon, we say that at the 32nd division from the point of the final new moon of the previous cycle, the moon completes the first new moon in the current cycle, the circle being divided into 124 divisions as in the case of full moons.

Similarly the 2nd, the 3rd and the 12th and the like.

Similarly the sun also completes the new moon at the 94th division from the point of the previous new moor, the circle being divided into 124 divisions as in the case of full moons.

The Nakshatras and the Full Moons.

Now regarding the question, in what Nakshatra does the moon complete the 1st full moon, we say in the Dhanishṭha, as already stated, when $3 + \frac{19}{62} + \frac{65}{67}$ muhūrtas still remain in the star. This is ascertained as follows:—

The constant for Nakshatras and full moons is $66 + \frac{5}{62} + \frac{1}{67}$. Multiply this by the number of the full moon, 1. The product is the same. Then deduct from this $9 + \frac{24}{62} + \frac{66}{67}$, being the correction for Abhijit. Then deduct 30 muhūrtas for Śravaṇa. There remain 26 muhūrtas. This being deducted from 30 muhūrtas of Dhanishṭha, we have still $3 + \frac{19}{62} + \frac{65}{67}$ muhūrtas in Dhanishṭhas.

Now regarding the sun, the Nakshatra, and the first new moon the reply is that he completes it in the Pūrvaphalguni, when there remain $28 + \frac{88}{62} + \frac{32}{67}$ muhūrtas in that star.

This is ascertained as follows :—

$(66 + \frac{5}{62} + \frac{1}{67}) \times 1 - (19 + \frac{48}{62} + \frac{88}{67})$ correction for Pushya $= 46 + \frac{23}{62} + \frac{85}{67}$.

Then deduct 15 muhūrtas for Āślesha and 30 for Magha. Then there remains $1 + \frac{23}{62} + \frac{85}{67}$, *i.e.*, when there remain $28 + \frac{88}{62} + \frac{82}{67}$ in Pūrvaphalguni, the sun completes the new moon. The Pushya correction is made for the reason that at the close of the cycle only $\frac{28}{67}$ parts of Pushya are traversed by the sun, leaving $\frac{44}{67}$ parts still to be traversed. $\frac{44}{67}$ parts are $= \frac{44}{67} \times 30 = \frac{1820}{67}$ $= 19 + \frac{48}{62} + \frac{63}{67}$.

These are solar muhūrtas.

13 days of 30 such muhūrtas $+ \frac{12}{30}$ of a day is the duration of the sun's stay in a star.

Similarly for 2nd full moon :—

$(66 + \frac{5}{62} + \frac{1}{67}) \times 2 - (9 + \frac{24}{62} + \frac{66}{67}$ for Abhijit + 30 for Śravaṇa + 30 for Dhanishṭha + 15 for Śatabhishak + 30 for Pūrvābhādra) $= 17 + \frac{47}{62} + \frac{3}{67}$, *i.e.*, when so much yet remains in Uttarābhādra the 2nd full moon is completed. Likewise for the 2nd full moon and the sun :—

$(66 + \frac{5}{62} + \frac{1}{67}) \times 2 - (19 + \frac{48}{62} + \frac{88}{67}$ for Pushya + 15 for Āślesha + 30 for Magha + 30 Pūrvaphalguni) $= 27 + \frac{28}{62} + \frac{86}{67}$, *i.e.*, when so much has elapsed in Uttaraphalguni, the sun completes the same full moon.

Similarly for the 3rd full moon and the star with the moon or the sun may be ascertained. Also for 62nd full moon and the star with the moon or the sun.

In the last case there remain in Pushya $19 + \frac{48}{62} + \frac{33}{67}$ muhūrtas when the sun completes that final full moon.

Likewise in the case of new moons :—

$(66 + \frac{5}{62} + \frac{1}{67}) \times 1 - (22 + \frac{46}{62}$ for Punarvasu $+$ 30 for Pushya) $= 13 + \frac{21}{62} + \frac{1}{67}$, *i.e.*, when so much out of the 15 muhūrtas of Āślesha has elapsed, the first new moon is completed by the sun.

Likewise in the case of the 2nd, 3rd, 12th or the 62nd new moons of a cycle, the last new moon occurring in the Punarvasu star.

Motion of the Stars and the Planets.

The stars are quicker than the planets; among the latter the sun is slower than the moon.

The commentator traverses the same ground here he has already done before indicating durations of the moon's or the sun's stay with each of the 28 stars, then refers again to two suns, two moons and two sets of 28 stars.

The teacher now proceeds to speak of the beginnings of the various years of a cycle.

The closing point of the previous years is the initial point of the succeeding years. For example, 2nd year will be completed in the close of the 24th full moon. Now the parva constant multiplied by 24 *minus* the period of the sidereal revolutions of the moon or the sun as the case may be in a year together with the corrections for the stars concerned gives the beginning, as :—

$(66 + \frac{5}{62} + \frac{1}{67}) \times 24 - (819 + \frac{24}{62} + \frac{66}{67}$ being one Nakshatraparyāya) $= 765 + \frac{95}{62} + \frac{25}{67}$. From this deduct $744 + \frac{24}{62} + \frac{66}{67}$ being the correction for stars from Abhijit to Mūla.

The remainder $= 22 + \frac{8}{62} + \frac{26}{67}$, *i.e.*, at the beginning of the second lunar year there remain $7 + \frac{85}{62} + \frac{41}{67}$ muhūrtas in Pūrvāshāḍha.

Similarly for the solar year :—

$(66 + \frac{5}{62} + \frac{1}{67}) \times 24 - (819 + \frac{24}{62} + \frac{66}{67}$ being one sidereal revolution of the sun) $= 765 + \frac{95}{62} + \frac{25}{67}$. Deduct from this $19 + \frac{48}{62} + \frac{33}{67}$ correction for Pushya and $744 + \frac{24}{62} + \frac{66}{67}$ for stars from Āślesha to Ārdra. Then there remain $2 + \frac{26}{62} + \frac{60}{67}$, *i.e.*, the second solar year commences when there remain in the Punarvasu star $42 + \frac{35}{62} + \frac{7}{67}$ muhūrtas.

Likewise for other years.

Then the teacher again speaks of the various years, sidereal, lunar, Sāvana and solar, and determines their respective lengths.

Other Cycles.

The lunar year and also the solar year commence at the same point or day and close at the same point or day once in every cycle of 30 years which is equal to 6 cycles of 5 years each. For the lunar gains 6×2 months and thus completes one complete intercalary year.

Similarly the solar, the Sāvana or seasonal, the lunar, and the Nakshatra years begin on the same day and close on the same day or simultaneously begin and close once at the close of 12 cycles of 5 years each, *i.e.*, 60 years.

It must be noted here that the lunar is really equal to $354 + 5\text{m.} + \frac{50}{62}\text{m.}$

For in a cycle of 5 years there are

60 Solar months.
61 Ṛitu months.
62 Lunar months.
67 Nakshatra months.

Hence $60 \times \frac{12}{12} = \frac{61}{12} \times 12 = \frac{62}{12} \times 12 = 67 \times \frac{12}{12}$, when the numerator denotes number of cycles of 5 years each and the denominator stands for 12 months of a year. In less than 12 cycles of 5 years each all of them will not be complete years.

Similarly the intercalary lunar year, the solar, the Ṛitu or Sāvana, the lunar and the Nakshatra years will simultaneously begin and close once in a great cycle of 156 cycles of 5 years each; for 156×5 years are equal to 744 intercalary lunar years, 780 solar, 793 Ṛitu years, 806 lunar, and 871 Nakshatra years.

Imperfect Cycle.

If it be asked whether a cycle made of the five years, *viz.*, 1 Nakshatra year, 1 lunar, 1 Ṛitu year, 1 solar, and 1 intercalary, would be perfect, the answer should be 'no'; for

The Nakshatra year	=	$327\frac{51}{67}$ days.
The lunar year	=	$354\frac{12}{62}$,,
The Ṛitu year	=	360 ,,
The solar ,,	=	366 ,,
The intercalary lunar	=	383 days $21\frac{18}{62}$ muhūrtas.

Total = 1790 days $+ 51 \times \frac{80}{67}$ muhūrtas $+ 12 \times \frac{80}{62}$ muhūrtas $+ 21\frac{18}{62}$ muhūrtas.

= 1790 days $+ 27\frac{6}{62}$ muhūrtas $+ \frac{1580}{67}$ muhūrtas.

= 1791 days + 19 muhūrtas $+ (\frac{6}{62} + \frac{56}{67})$ muhūrtas.

= 1791 days + 19 muhūrtas $+ \frac{57}{62} + \frac{55}{67}$ muhūrtas.

Now a perfect cycle is = 1830 days.

Hence 1830 days = (1791 + 19 muhūrtas + $\frac{57}{62}$ + $\frac{55}{67}$ muhūrtas) = 38 days + 10 muhūrtas + $\frac{4}{62}$ + $\frac{12}{67}$ muhūrtas is what is required to make that cycle a complete or perfect cycle.

The Seasons.

The rains, the autumn, the dewy, the spring, and the summer.

These are the seasons. They are of two kinds, the solar and the lunar. The solar season is equal to two solar months = 61 days. We speak of the lunar seasons later on. The seasons commence with the Āshāḍha month though the cycle of 5 years commences with the 1st day of the dark half of the month of Śrāvaṇa. Hence we count the number of parvas elapsed since the beginning of the cycle and multiply it by 15 in order to reduce them to lunar days. Then we add the remaining days above the parva up to the day in question. Then we deduct the Avama days at the rate of $\frac{1}{62}$ per day. Then we double the remainder and add again 61. Then we divide the sum by 122 and the quotient by six; the latter quotient is the number of expired Ṛitus and the remainder divided by two gives the days of the current season.

For example we are going to determine the season on the 1st Dīpōtsava day.

The number of parvas from the beginning of the cycle on 1st day of the dark half of Śrāvaṇa to the day in question are 7. So $7 \times 15 = 105$ lunar days. Now $105 \times \frac{1}{62}$ = nearly 2, *i.e.*, two Avama rātris. Deducting this from 105, we have 103.

$103 \times 2 = 206$. $206 + 61 = 267$.

$\frac{267}{122} = 2 + \frac{23}{122}$.

As two is not divisible by two, we leave it.

$\frac{23}{2} = 11\frac{1}{2}$.

Now counting the seasons from Āshāḍha, we may say two seasons are past and that 11 days have elapsed in the third season.

Now with regard to the question which season closes with what lunar day, this is the saying of ancient teachers :—

Take the number of the seasons in question and double it and deduct one from it. Then double it again. Then keep this product in two rows. One indicates the number of parvas; and the other being reduced to half shows the number of lunar days (tithis).

Now regarding the question, on what lunar day the first season in a cycle happens, we apply the formula as follows :—

Number of seasons = 1.

∴ $1 \times 2 - 1 = 1$. Again $1 \times 2 = 2$.

Keeping on two rows, as

2 2, we halve one of them.

The result is 2 and 1.

That is, 2 parvas have elapsed and that on the Pratipat day the first Ṛitu closed.

Similarly for the 2nd season—

$2 \times 2 - 1 = 3$.

$3 \times 2 = 6$.

6 6. Halving one

we have 6............3.

That is, 6 parvas have elapsed and that on the 3rd day the second season has closed.

To this end there is also another saying as follows :—

With regard to the solar seasons months should be considered with Āshāḍha and that tithis from Bhādrapada.

The 1st season closes with the end of the Bhādrapada. Then leaving one month in the middle, the second season closes with the end of Kārtika and third leaving one month closes with the next month and so on.

The 1st season closes on the Pratipat day.

The 2nd	,,	3rd day.
The 3rd	,,	5th ,,
The 4th	,,	7th ,,
The 5th	,,	9th ,,
The 6th	,,	11th ,,
The 7th	,,	13th ,,
The 8th	,,	15th ,,

All these close in the dark half of the months.

Then the 9th season closes on the 2nd day white half.

the 10th	,,	4th ,,	,,
the 11th	,,	6th ,,	,,
the 12th	,,	8th ,,	,,
the 13th	,,	10th ,,	,,
the 14th	,,	12th ,,	,,
the 15th	,,	14th ,,	,,

These seven close on the white half of the month. All these 15 seasons occur in half a cycle. Likewise 15 more occur in the other half.

In order to determine the stars with the moon or the sun at the close of a season, there are some Kāraṇa verses of ancient teachers. I am going to explain them now :—

$\frac{305}{134}$ parts of a day is the constant used in determining the star with the moon or the sun at the close of a season. This is multiplied by the number of the required season. The number of the season for the first is 1 and that of the seasons from 2 to 30 has to be doubled and added to the first. With this sum the constant is to be multiplied in the case of the second and other seasons up to 30. Then from the product thus obtained we have to deduct corrections for stars. 67 is to be deducted for stars of half area; $67 \times 2 = 134$ is to be deducted for stars of whole area; and $67 \times 3 = 201$ for stars of one and half area. In the case of the sun the corrections must begin with Pushya onwards and in the case of the moon with the Abhijit onwards. Here correction for Pushya is 88 (in addition) and 42 for Abhijit. Then the remainder shows the star with which the moon or the sun is in contact at the close of the season.

Example :—

Now in the case of the first season, we multiply 305 by one. Then the product is the same. Deduct 42 for Abhijit from this. The remainder is 263. Then deduct 134 for Śravaṇa from this. Then there remains 129. From this the correction for Dhanishṭha cannot be deducted. Hence we conclude that having traversed $\frac{129}{134}$ parts of Dhanishṭha the moon completes the first season.

Likewise for the second season :—

Constant $305 \times 3 = 915$. $915 - 42$ for Abhijit $= 873$.

Deduct from this 134 for Śravaṇa + 134 for Dhanishṭha + 67 for Śatabhishak + 134 for Pūrvābhādra + 201 for Uttarābhādra + 134 for Revati.

Then there remains 69. Hence we say that having traversed $\frac{69}{134}$ parts of Aśvini, the moon completes the second season.

So for the 30th season :—

The constant is 305; the season number multiplied by two and added to one is $29 \times 2 + 1 = 59$.

Hence $305 \times 59 = 17995$.

Now one sidereal revolution (Nakshatraparyāya) $= 3660$.

$\therefore$ 4 revolutions $= 14640$.

Hence $17995 - 14640 = 3355$.

Deduct from this 3225, being the correction for stars from Abhijit up to Mūla. Then there remains 130. That is the moon completes the 30th season after having traversed $\frac{130}{134}$ parts of Pūrvāshāḍha.

Likewise for the sun :—

$305 \times 1 - (88$ for Pushya $+ 67$ for Āślesha $+ 134$ for Magha$) = 16$. Hence we say that after having traversed $\frac{16}{184}$ parts of Pūrvaphalguni the sun completes the 1st season.

Likewise for the second season :—

$305 \times 3 - (88$ for Pushya $+ 67$ for Āślesha $+ 134$ for Magha $+ 134$ for Pūrvaphalguni $+ 201$ for Uttaraphalguni $+ 134$ for Hasta $+ 134$ for Chitra$) = 23$. Hence we say that having traversed $\frac{28}{184}$ parts of Svāti the sun completes the 2nd season.

Now for the 30th season :—

$305 \times 59 - (4 \times 3660 = 14640) = 3355$.

Now $3355 - (88$ for Pushya $+ 3258$ for stars from Āślesha to Mrigaśirah$) = 9$.

Hence we say that having finished $\frac{9}{184}$ parts of Ārdra the sun completes the 30th season.

Lunar Seasons.

Now in one sidereal revolution of the moon, the lunar seasons are six. Hence in a cycle of 5 years which is equal to 67 sidereal revolutions of the moon there are $6 \times 67 = 402$ lunar seasons.

In one lunar season there are $4\frac{87}{67}$ days.

The reason for this is as follows :—

One sidereal revolution of the moon $=$ 6 seasons.

One revolution is $= 27\frac{21}{67}$ days.

$\therefore$ One season $= 27\frac{21}{67} \div 6 = 4\frac{87}{67}$ days, as stated in the Kāraṇa verse of the ancient teachers.

The formula to determine the lunar seasons is as follows:—

Multiply by 15 the number of parvas that has elapsed from the beginning of the cycle. Then add the remaining number of days above the parvas, if any. Then deduct Avamarātras at $\frac{1}{61}$ per day. Then multiply the remainder by 134 and add to the product 305 and divide the sum by 610. The quotient is the number of Ṛitus.

For example, we may desire to know the Ṛitu on the 5th day of the 1st parva from the beginning of the cycle. No parva has as yet been completed here. Hence take only the days, *viz.*, 5. Deduct one from it. Remainder is 4. Multiply it by 134.

$\therefore 4 \times 134 = 536$.

Add to this 305. $\therefore 536 + 305 = 841$. Dividing this by 610 we have $\frac{841}{610} = 1\frac{281}{610}$. Here 1 stands for the 1st season.

Taking the remainder 231, divide it by 134.

$\therefore \frac{231}{134} = 1\frac{97}{134}$. Here 1 stands for days.

i.e., one day.

Now dividing 97 by 2 we get $48\frac{1}{2}$ which stands for so many sixty-seventh parts. Hence we say that on the 5th day the Prâvṛiṭ Ṛitu has expired and that one complete day of the second season and $48\frac{1}{2}$ sixty-seventh parts of the second have also elapsed.

If it is desired to know what season there will be on the 11th day in the 2nd parva from the beginning of a cycle, we proceed as follows :—

1 parva elapsed × 15 + 10 days elapsed upto the 4th day = 25. 25 × 134 = 3350. Adding to this 305 we have 3655. Dividing this by 610, we have $\frac{3655}{610} = 5\frac{605}{610}$, where 5 stands for Ṛitus.

Now $\frac{605}{134} = 4\frac{69}{134}$, where 4 stands for days.

$\frac{69}{2} = 34\frac{1}{2}$ sixty-sevenths of a day.

That is, 5 seasons and 4 days and $34\frac{1}{2}$ sixty-sevenths of a day have elapsed.

In order to determine the closing day of a lunar season the following method is taught :—

As in the case of solar seasons, multiply the constant $\frac{805}{134}$ by one for the first and by (2 × number of seasons + 1) for the 2nd and other seasons up to the last season ; and divide the product by 134. The quotient is the number of lunar seasons expired.

If, for example, the day on which the 1st lunar season expires is sought to be known, we proceed as follows :—

The constant is $\frac{805}{134}$. Multiplying it by 1 we have $\frac{805}{134} = 2\frac{37}{134}$. Divide 37 by 2. We have $18\frac{1}{2}$.

Hence we say that after 2 days and $18\frac{1}{2}$ sixty-sevenths of the third day the 1st lunar season attains completion.

Likewise for the 2nd Ṛitu :—

$\frac{805}{134} \times 3 = \frac{915}{134} = 6\frac{111}{134}$ (i)

$\frac{111}{2} = 55\frac{1}{2}$ (ii)

That is, that after 6 days and $55\frac{1}{2}$ sixty-sevenths of the 7th day the second season attains completion.

Similarly for 402nd season :—

$\frac{805}{134} \times 803 = \frac{244915}{134} = 1827\frac{97}{134}$ (i)

$\frac{97}{2} = 48\frac{1}{2}$ (ii)

That is, the 402nd season will be completed when 1827 days and $48\frac{1}{2}$ sixty-sevenths of the day after those days have elapsed.

There is also a formula taught by ancient teachers to determine the star with which the moon completes any one of his seasons.

The same constant $\frac{805}{134}$ is multiplied by one for the 1st and by $1 + 2 \times$ (number of seasons *minus* 1st) for the 2nd and other seasons. Then corrections for stars from Abhijit onwards are made. What remains then indicates the portion of the star.

Now for the star on the last day of the first season we proceed as follows:—

$\frac{805}{134} \times 1 = \frac{805}{134}$.

Then deduct from this 42 for Abhijit; then 134 for Śravaṇa. Then there remains 129. Dividing this by 2 we have $64\frac{1}{2}$.

That is, the 1st season is completed by the moon when $64\frac{1}{2}$ sixty-sevenths of Dhanishṭha are passed.

Likewise for the 2nd season :—

$\frac{805}{134} \times 3 = \frac{915}{134}$. Deducting from this 42 for Abhijit, 134 for Śravaṇa, 134 for Dhanishṭha, 67 for Śatabhishak, 134 for Pūrvābhādra, 201 for Uttarābhādra and 134 for Revati then there remains $\frac{69}{134}$. That the moon completes the 2nd season when $\frac{69}{134}$ parts of Aśvini have elapsed.

Likewise for 402nd season :—

$\frac{805}{134} \times 803 = 244915$.

Now one paryāya or turn for all the 28 stars is 3660. Hence $\frac{244915}{3660} = 66\frac{3355}{3660}$.

Now from 3355 we deduct 42 for Abhijit and 3082 for stars from Śravaṇa to Anūrādha. Then there remains 231. Deduct from this 67 for Jyēshṭha + 134 for Mūla. There remains 30. Hence we say that after having traversed $\frac{30}{134}$ parts of Pūrvāshāḍha, the moon completes the 402nd season.

(To be continued.)

ANTHROPOMETRY OF THE KANIKARS OF TRAVANCORE.

By L. A. Krishna Iyer, Esq., M.A., M.R.A.S.

Anthropometry as a test of race stands much discredited in the eyes of some eminent anthropologists. Professor Sergi says that the method of indices is only a method in appearance and it inevitably leads to errors and can produce no satisfactory results. Professor Ridgeway thinks that these osteological differences are but foundations of sand and that physical type depends far more on environment. Lastly, O'Malley, the last Imperial Census Reporter, writes: "Of late years, Anthropometry as a test of race has begun to fall out of favour."

There is at the same time another body of scholars who rely on the absolute certainty of the nasal and cephalic indices, of hair and colour as permanent tests of racial distinction. Dr. Topinard, Sir William Turner, Sir Herbert Risley, and Doctor Thurston rely on the constancy of cranial measurements.

Doctor Thurston was the first to study the nasal index of the jungle and domesticated Kanikars who form a small hill-tribe in South Travancore. According to Bourdillon, those who live in the jungle are called Kanikars, while those living outside it are called Velanmar who have undergone some modifications as a result of contact metamorphosis.

Collignon formulates the theory that, in a given race, leptorhiny is in direct relation to stature. The more it is raised, the longer the nose. The lower the stature, the more the nose tends towards mesorhiny. Sir Herbert Risley also found from his experience of North Indian peoples that nasal index ranks higher as a distinctive characteristic than stature or cephalic index itself. This applies to South India also. Doctor Thurston's observations of the nasal index of the Kanikars are as follows :—

Type	Average nasal index	Maximum nasal index	Minimum nasal index
Jungle ...	84.6	105	72.3
Domesticated ...	84.2	90.5	70.8

It may be seen that the nasal index of the jungle Kanikars is higher than that of the domesticated Kanikars of the plains. As already pointed

out, this is an instance of a primitive short dark-skinned and platyrhine type changing as a result of contact metamorphosis towards leptorhiny.

There is remarkable correspondence between gradations of type as revealed by indices and, according to Sir Herbert Risley, the gradations of social precedence enable us to conclude that community of race and not community of functions is the real determining principle of the caste system. The Rig-Veda uses the word *anasa* (noseless) to the Dasyus or Daityas. It is possible to arrive at a definition of pre-Dravidian tribes of to-day from these sources. They are a short-statured, dolichocephalic and platyrhine people, and these physical traits did not escape the observation of Puranic writers.

THE TAMIL KINGS AND THEIR GOVERNMENT.*

BY PANDIT N. CHENGALVAROYAN.

Introduction.

THE Sangam epoch in Tamil literary history is of the greatest interest and importance to a student of the ancient history of South India. The Sangam works portray, vividly, accounts of a highly civilized state of society, where the arts of war and peace had attained considerable development and perfection. They give us accounts of the civil administration of the ancient Tamil country, of its social life and religious practices, its political activities and commercial enterprises. They tell us about the great number of Cheras, Cholas and Pandyas who were ruling over their different kingdoms. Contemporary poets have extolled these kings for their military achievements and for their munificence as patrons of letters. The achievements of these people in economic and political spheres as well as in the world of letters were manifold.

The art of polity was rendered an exact science and in proof thereof it may be mentioned that no less than seventy chapters had been devoted to this interesting subject in that monumental work, *Kural*. Even in those days the science of military and naval warfare was highly developed in Southern India. Coastal and oceanic trade expanded to the farthest limits. 'The wealth and importance of the country attracted foreign merchandise to its ports, where trade in an international scale was carried on.' Ship-building and maritime activity received liberal encouragement and support at the hands of the rulers. Men of war existed, dockyards, harbours and lighthouses were built at *Muchiri* on the west coast and *Pukar* on the east coast and several other places.

Object of the Paper.

The object of the paper is to contradict the view held by some western scholars who are of opinion that there was no Tamil literature before the ninth century A.D. In fact, all that was original and excellent in the literature of the Tamils was written before the ninth century. A careful perusal of some of the ancient Tamil poems would disclose the fact that they were composed as nearly as two thousand years ago and, that the Tamil country was prosperous under the unbroken sway of a long line of illustrious kings of the three dynasties, *viz.*, Chera, Chola and Pandya.

* A resumé of a paper read by Pandit N. Chengalvaroyan, Government High School, Malleswaram, Bangalore, at the All-India Oriental Conference (History Section) held at Allahabad on 7th November 1926. Mr. Chengalvaroyan attended the Conference as a delegate representing the Mysore State.

Topography of the Tamil Country.

The portion south of the Vindhya mountains is known as South India or the Deccan. Long before the beginnings of its authentic history the branches of the great Dravidian race occupied it. The greater portion of it was known as *Tamilakam* or the Tamil country. The Tamil land was divided into three parts—Chera, Chola and Pandya Mandalams. Pandi Nadu corresponds to the whole of the modern Madura district. The capital of the Pandyas was Madura. It was a wealthy, populous and fortified city in the days of its glory. Korkai also was an important town of the Pandyas. Chola Nadu was also known as Punal Nadu. Uraiyur was its capital which is now a suburb of the modern town of Trichinopoly. *Pukar*, otherwise known as *Kavirip-pumpattinam*, was an important seaport of the Cholas. We have a full description of this town in the poems *Chilappathikaram* and *Pattinappali*. Vanchi or Karur was the capital of the Cheras. This was also planned after the model of Madura and Uraiyur and was charming to every visitor. Muchiri and Thondi were the flourishing seaports of the Chera Nadu.

Trade and Commerce.

The products of the Tamil country seem to have attracted the merchants of distant lands. In the early centuries of the Christian era the Tamils carried on an active trade with western peoples like the Romans, Greeks, Arabs and Javanese. The Roman coins that were discovered in the Tamil Nadu support the truth of this statement. There is sufficient evidence to believe that numerous colonies of Roman subjects carrying on trade were settled in S. India during the first and second centuries A.D. This kind of busy commercial intercourse between the two nations lasted till very nearly the beginning of the sixth century A.D. The western merchants who visited the Tamil land were known as Yavanas and many references to these Yavanas can be found in the Tamil poems. These foreigners were enlisted by the Tamil kings for their army and some of these formed the king's bodyguard also. It is also said that there was a colony of these Yavanas at *Kavirip-pumpattinam*.

The Three Dynasties.

As there is no definite chronology of South Indian history, we have to attach much importance to the Tamil classical works, such as *Purananuru*, *Padhirup-Pattu*, *Pathup-Pattu* and the commentary on *Irayanar Agapporul* and the like, which supply abundant materials for building up the political history of the Deccan. They give us a true picture of the countries as seen by the poets. The *Pandyas* formed a highly civilized race at a very early period and an account of their rule from the earliest times up to the seventeenth century gives us some idea of the commercial intercourse that existed

between the Pandyas and the western world, their suzerainty over the several powers of S. India, the expansion of their dominion and finally their decline. The Cheras, Cholas and Pandyas were collectively known as "The Three Kings". Apart from these kings there were several princes and chiefs who ruled over the extensive provinces of the Tamil land and were under the sway of one or the other of these kings. Some of the chiefs who were subordinate to the Tamil kings were as follows: *Thirayan* was the first among the feudatory princes and had his capital at Kanchipuram. The rulers of Venkadam, Maladu and Milalai Kurram were the feudal chiefs of the Cholas. The Chera king had as his vassals the chiefs of Alumbil, Kuthiraimalai and Thakadur. Ay, Porunan and Palayan Maran were the principal chiefs of the Pandyas.

Social Life.

The dress worn by the Tamils differed according to their status in society and the race to which they belonged. The middle classes wore ordinarily two pieces of cloth, one loosely tied round the head and the other round the waist. The soldiers put on uniform. The nobles wore such dresses as were suitable to the climate of the country. Boys were married at sixteen and girls at twelve and this was considered as the proper period for marriage. One of the most important customs of South India was the building of temples and shrines over the tombs of the dead. To perpetuate the memory of soldiers who sacrificed their lives in battle, hero-stones (Virak-kal or Masthik-kal) were erected with inscriptions on them.

Government.

The Government under the Tamil kings in ancient India has both historical and practical interest. The governmental machinery was organized in the following way: A hereditary monarch who was the head of the Government was assisted by five councils which were known as "The Five Great Assemblies" and which often included some representatives of the people. The administration consisted of ministers who attended to revenue and judicial affairs, priests who directed all religious ceremonies, commander-in-chief who organized and regulated military and naval functions, ambassadors and spies to guide and advise on matters relating to foreign policy and the like. There were other principal officers of the State, such as chief astrologer, judges, magistrates, engineers, meteorologists and chancellors of exchequer appointed for purposes of administration. It is very interesting to note that this system of government prevailed independently in the three kingdoms of the Chera, Chola and Pandya. The unit of administration of the Tamil kings was the village community composed of a single village or a group of villages. There were the Village Assemblies or Mahasabhas which

looked after the administration of the village. Even-handed justice was meted out to the suitors free of cost unlike in the present day. As the punishments were severe, crimes were rare. The Village Assembly also exercised equal powers in matters concerning the administration of justice. Many of the South Indian inscriptions testify to this fact. The administration of Tamil kings was highly systematised. The principal source for the revenue of the kingdom was taxation which was in cash and in kind.

Public Works and Town-Planning.

The irrigation works were a branch of the Public Works. These were divided into major and minor works. Compulsory labour was employed for carrying out these works. The system of irrigation was indigenous in origin and consisted mostly of tanks and channels. The village public works also included the public roads, the maintenance of which was one of the duties of the Assembly. The capital towns of the Three Kingdoms, *viz.*, Vanchi, Pukar and Madura stand as excellent examples to illustrate the art of town-planning pursued by our ancients. The city was generally divided into three parts, the outer, intermediate and the central. Each portion had its own public places, streets, parks and tanks. Particular attention was bestowed on questions relating to public health and sanitary conditions. The system of drainage was well maintained and people regulated properly the disposal of waste water and sewage. Towns and houses were planned according to the rules laid down by the ancients. The houses of the Brahmins, farmers, shepherds and fishermen were some of the typical examples.

Literature and Religion.

The Tamil literature is the source of information for a study of the ancient history of the Deccan. We have certain works—*Pattuppattu*, *Ettuthokai* and *Pathinenkalkanakku*—which, as a body, are known among scholars by the collective designation of Sangam works. This designation assumes the existence of an academy of scholars and critics of recognized worth and standing in the world of letters. Tradition knows of three Sangams. The Sangam was a permanently existing body. Historically the Sangam works are of great value. The Tamil kings patronized the work of the Sangam among whom *Pandiyan Urga Peru Valudi* deserves special mention. It is impossible to fix with any degree of accuracy the age of Sangam activity. But we can confidently say that it attained its zenith of perfection in the first or second centuries of the Christian era which is considered as the Augustan Age of Tamil Literature. The works of no less than fifty authors have come down to us and the works of so many authors of one age throw a flood of welcome delight. An examination of these works will reveal to us the cultural activity of the Tamils.

Four great works of this period, *viz.*, *Kural* by Tiruvalluvar, *Kalith-thogai* by Nallan Thuvanar, *Chilappathikaram* by Ilanko-Adigal and *Manime-kalai* by Chathanar, are of outstanding importance. These furnish ample materials for studying the histories and civilization of the ancient Tamils. In this literature we find a true and faithful picture of the social and political condition, the habits and manners of the Tamils, preserved in an enduring form. The monarchs of South India, besides patronizing education, took keen interest in developing the science and practice of fine arts, such as music, dancing, painting, sculpture and architecture.

There were several religions in South India in olden days. Among them Shaivism and Vaishnavaism deserve special mention. Religious toleration was one of the most striking features of Tamil society.

THE IRIKKAL KOVILAGAM, TRICHUR.

By A. Govinda Wariar, Esq., B.A., B.L.

About two miles west, or rather south-west, of Tṛichūṛ, on the road to Perumpuḷa, Antikkād and other places, there is a *dēśam* called Oḷarikkara in which place is situated a popular Bhagavati temple of some antiquity. It is held in much veneration by the inhabitants of the neighbouring *dēśams* who celebrate with *éclat* its annual festival or *vēla*, turn by turn.

A furlong to the south of this shrine, there is a very extensive garden which originally belonged to the Kiḷakkimiyēdatt Nambūtiripād, but is now in the hands of Mr. A. Śankara Puduvāḷ, B.A., B.L., Member, Legislative Council, Chief Court Vakil, Tṛichūṛ. It contains three tanks and more than half a dozen wells, all of considerable size, and built with a superior kind of laterite. To the north-western side of the biggest of these ponds, we find the remains of the original residence of the Nambūtiripād, on a raised block of land, with two wells and a pond or rather *Kokkaṛṇi* attached to it. The huge pieces of masonry scattered about the place give us an idea of the massive structure that must have been reared on such a foundation.

Local tradition has it that one of the ancestors of the Kiḷakkiniyēdatt Nambūtiripād, a partisan of the Zamoṛin, gave him a royal reception, and helped him in his wars with the Cochin Royal Family, with the result that, when the Zamoṛin was expelled, the major portion of the estate of the Nambūtiripād was confiscated by the State (or *Pandāram kēṛi*, as the common people say). A pension of sixty-eight and odd Cochin fanams* was given him and he was allowed to reside in a small part of the estate in Ayyantōḷe, a *dēśam* to the north of Oḷarikkara. He lost also his *Uraimaship* of the Vadakkunnāthan temple, Tṛichūṛ, to which he is said to have paid visits in a palanquin borne on a cloth spread out on clean white sand strewn all the way from his *illam* to the temple—a distance of about two miles.

The tradition is also referred to in a little known Malayāḷam work called *The History of Kerala* by Mr. Kaṇṇampara Rāmanuṇṇi Nāyar.† He makes a reference to the Irikkal Kōvilagam. The passage may be freely translated thus ‡ :—

* This gives Rs. 19-7-8. See *Cochin Legislative Council Proceedings*, Vol. II, page 1134. The pension is now being shared after partition by the three families in Ayyantōḷe, Maṇattiṭṭu and Chembukkāvu *dēśams* in the outskirts of Tṛichūṛ.

† Pp. 128-29. The book was published in 1084 M.E. by Mr. P. Kunjukṛshna Mēnōn, Kōṭṭakkal, North Malabāṛ. The author treats it as genuine history.

‡ A short notice of the same tradition will be found in Mr. K. P. Padmanābha Mēnōn's *History of Cochin* (Malayāḷam), Vol. I, p. 333.

"Almeyda, subsequently, came to Cochin, and began the construction of the Fort. At this time there was some dissension in the *tāvaḷies* of the Cochin Royal Family. He interfered in these, and superseding the first two princes, enthroned a Vīra Kēraḷa Tampurān (*viz.*, the third prince). The rest of the princes, not being agreeable to this, rebelled. The Zamoṟin with 500 Nāyars went and lived in the Nambūtiripād's *illam*, known as the famous Irikkal Palace. There he gave the Zamoṟin a grand entertainment. It is enough to mention that the Nambūtiripād received him in a manner befitting his own wealth and the dignity of his guest. The Tampurān got down from his palanquin when he reached the Gate. The pathway from it leading to the portico was well decorated with sand and carpetted (*veḷḷayum karimpadavum virichehu*). This shed (*natappura*) was as long as the distance of pollution to be observed by a Cheruman (seventy-two feet). On both sides of it, without any break, were hung golden chains (*Ponnaraṇjāṇ*). Seeing this the Zamoṟin glanced respectfully at the Nambūtiripād, as he was reminded of his wealth and pride. It was after this that he sat down in the portico. The rest of the reception was on a similar scale.* They resided there that day, and after the morning bath, proceeded together to the Tṟichūṟ Temple. They prayed in the temple, left it by the northern gate (*gōpuram*) and went to the Tṟichūṟ Palace. When they approached the portico, they got down from their palanquins. The 500 Nāyars of the Zamoṟin and the 1,000 Nāyars of the Nambūtiripād surrounded the palace. Even now there is a *dēśam* called Irikkal west of the Trichur Fort. There can still be seen three big tanks finely built and some smaller ponds and the Irikkal Bhagavati Temple. This Bhagavati was the *paradevada* (tutelary deity) set up in the yard of the palace of the Nambūtiripād."

It is noteworthy, in this connection, that, though Mr. Rāmanuṇṇi Nāyar and Mr. K. P. Padmanābha Mēnōn have referred to the story, they have not identified the Irikkal Palace of this unnamed Nambūtiripād with the Kiḻakkiniyēdatt Nambūtiripād's residence.

That the tradition may contain an element of truth will be seen from a study of the political events of the period (1505-06 A.D.). It is well known that, when Dom Francisco de Almeyda, the Portuguese Viceroy, arrived in Cochin in 1505, there was some dispute regarding succession to the Cochin throne. Uṇṇi Rāma Varma Kōil, the retiring Raja, had three *anantiravans*, of whom the two senior princes were openly hostile to the State, having sided with the Zamoṟin two years previously. Hence the Raja with Portuguese help had set up on the *gadi* the third prince, Vīra Kēraḷa Varma. The other

* Local tradition supplements this by saying that the Zamoṟin was welcomed by a golden *paṟa* filled with fanams, another *paṟa* with a golden bunch of cocoanuts, with a golden lamp (*nilaviḷakku*), etc.

princes, expelled from the country, had their own supporters among the nobles, including prominent Nambūtiries. These partisans protested against their exclusion from succession, so that even the late Raja, who had assumed the titles and dignities attached to the Perumpadappu Muppu Stānom, began to doubt the validity and justice of his action. Soon after the coronation of Vīra Kēraḷa Varma by Almeyda, the two princes along with the Zamoṟin invaded the country. The Irikkal chief may have been one of those local potentates who espoused their cause, and who had, hence, to pay the penalty for the same. *

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* *Vide* also pp. 330-32, *History of Cochin*, Vol. I, by Mr. K P. Padmanābha Mēnōn, B.A., B.L., M.R.A.S.

STUDIES IN BIRD-MYTHS No. XX.—ON AN ÆTIOLOGICAL MYTH ABOUT THE BARN-OWL OR THE SCREECH-OWL.

BY SARAT CHANDRA MITRA, ESQ., M.A., B.L.

READERS of Gray's *Elegy written in a Country Churchyard* will easily recall to their minds the lines :—

> " Save that from yonder ivy-mantled tower,
> The *moping owl* does to the moon complain
> Of such as, wandering near her secret bower,
> Molest her ancient solitary reign."

The owl referred to in the foregoing lines is undoubtedly the Barn-Owl or the Screech-Owl which is found both in Europe and Asia (including India, Burma and Ceylon).

The Barn-Owl or the Screech-Owl (*Strix flammea*) is a familiar bird of the country-side both in Great Britain and in India. Its facial disk is complete. There are no plumicorns. Its operculum is large. Its plumage is tawny buff above ; its face and underparts are whitish ; its bill is yellow. There are bristles generally on its feet. Its claws are black. Its middle claw is serrate. Its flight is leisurely and noiseless. *Its cry is a screech* ; and it snores. The females of this species are large in size. It builds no nest. It lays its eggs in some hole in the tower of a church or of some other building. The usual number of the eggs laid by this species is from two to seven. But it is popularly believed in England that this owl lays its eggs in pairs.

As already stated above, the *Strix flammea* is one of the commonest birds of India, Burma and Ceylon. Dr. W. T. Blanford, F.R.S., at pages 264—266 of the third volume of *The Fauna of India—Birds*, mentions that this owl is called *Bhutum Bricha* in Bengali.

There is current in some parts of Eastern Bengal the under-described ætiological myth about the evolution of what appears to be the Barn-Owl or Screech-Owl (*Strix flammea*) :—

There lived in a village, named Mahmudpur, an old man and his aged wife. They were possessed of great wealth in the shape of cattle and corn. But they had no children. Consequently they became disgusted with the world and their worldly belongings. In this frame of mind, they decided to go on pilgrimage to the sacred shrines of Hindudom.

Before starting on their tour of pilgrimage, they sold all their corn, cattle and other belongings and stored, in six earthen vessels, all the money fetched

by the sale thereof. Then they excavated a hole in the ground in a deserted cow-house, and hid therein the aforementioned six earthen vessels full of rupees.

Having done so, they set out on their tour of pilgrimage to the sacred shrines. Having finished their pilgrimage in the course of several years, they returned home to their native village. But they were unable to trace out their own homestead in the village, and searched in vain for the six earthen vessels full of rupees, which they had hidden in a hole in the ground within a deserted cow-house. They searched high and low—they sought for the vesselfuls of money up hill and down dale. But nothing came of their search. The result was that they were unable to find out their money—their hope and the stand-by of their old age in this world. Thereupon they became sorely stricken with sorrow at the loss of their money. The benign gods took pity on their distressed condition and metamorphosed them into two Barn-Owls or Screech-Owls (*Strix flammea*) which thereafter flew into a neighbouring large banyan-tree (*Ficus indica*). Here the two birds sat and recriminated each other in the following way. The old man, who has been transformed into the male owl, says to his old wife who has been changed into the female owl: "Did you hide the money or did I hide it?—You hid the money." (तुइ थुलि ना मुइ थुलि?—तुइ थुलि।)

The old woman, in her owl-shape, replies to her mate's accusation by saying: "Did you hide the money or did I hide it?—You hid the money." (तुइ थुलि ना मुइ थुलि?— तुइ थुलि।)

Up to the present day, these two old people (in their owl-shapes) have not been able to find out their hidden money, and so accuse each other by screeching: तुइ थुलि ना मुइ थुलि?—तुइ थुलि। ("Did you hide the money or did I hide it?—You hid the money").

It is for this reason that, even up to the present time, we hear the Barn-Owls or Screech-Owls screeching at each other after nightfall and all through the dark hours of the night.*

On analysing the foregoing ætiological myth, we find that its essential components may be described as follows:—

(1) The hero and heroine are possessed of some wealth.

(2) Being apprehensive of losing the same, they hide the same in a hole in the ground.

(3) After some temporary absence from their place of abode, they return home and search for their hidden wealth, but are unable to find the same.

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* *Vide* the article entitled: "*Tui thuli nā mui thuli*", published at pages 306—311 of the Bengali Monthly Magazine, *Mukul* (published from No. 22, Sukea Street, Calcutta), for Chaitra 1332 B.S. (March—April 1926).

(4) They are sorely stricken with sorrow at the loss of their wealth.

(5) The benign deities take pity on their distressful condition and metamorphose them into two Barn-Owls or Screech-Owls, which screech at each other during the dark hours of the night even up to the present day.

In my paper "*On an Ætiological Myth about the Common Hawk-Cuckoo*" which was published in this Journal for April 1926, I have already shown that the primitive myth-makers of Bengal have done justice to the poor old woman, who was deeply distressed at the loss of her money, by causing the beneficent gods to metamorphose her into the Common Hawk-Cuckoo. In the case of the old man and woman, whose loss of wealth and consequent deep grief form the subject-matter of this study, the primitive myth-makers of Bengal have also adopted the same device for the purpose of alleviating their distress. That is to say, they have caused those beneficent gods, whose natures are full of the milk of divine kindness, to feel compassion for them in their sorrow-stricken condition, and to relieve their distress by transforming them into a male and a female Barn-Owl or Screech-Owl.

As I have already shown in my previous studies of the first ætiological myth (from Sylhet) about the Indian Cuckoo and of that about the Spotted Dove, men's sorrow at the death of some relative or kinsman by an unexpected accident, seems to have moved the compassion of the primitive myth-makers of Bengal, for, in these cases also, the latter have caused the benign gods to alleviate the grief of the sorrow-stricken persons by metamorphosing them into an Indian Cuckoo or a Spotted Dove.

In my Bird-Myths, No. XIX, "*On an Ætiological Myth about the Brown Fish-Owl*", I have already stated that owls in general are regarded by the Bengali womenfolk and the Bedouins of Tunisia in North Africa as some sort of supernatural beings, such as messengers of death or ghosts. This folk-belief has its analogue in England, where insects and mammals of nocturnal habits are also regarded by the country-folk in the light of supernatural beings. For instance, the large night-flying moths are regarded by the Welsh peasantry as *Fairies* or the *little folks*, and packs of weasels which hunt by night have been looked upon by the illiterate folks of the English countryside as "*fairy-dogs*", as will appear from the following interesting account which has been published in the English '*Daily Mail*' and reproduced in the Calcutta daily, *Statesman*, of the 11th July 1926, under the title of "*Quaint Superstitions, Fairy Dogs of the Fields*" :—

"Most of the ancient superstitions connected with Nature are founded upon fact. The fairies, for instance, must have originated with the large moths which frequented the woodland glades in that uncertain light when

twilight gives place to night. In Wales farmers and shepherds I have spoken to, still firmly believe in the "*little people*" of the hills—a diminutive race of men and women about two inches in stature, writes Oliver G. Pike in the *Daily Mail.*

In my own district, not far from the picturesque Chiltern hills, you may find farm labourers who will tell you of the packs of 'fairy dogs' which still haunt the meadows at night.

And, remarkable as it may seem, our meadows are hunted by night by packs of small but desperate robbers. But if those who believe that they are fairies had investigated instead of standing in awe as the pack passed by, they would have found that these miniature hounds were weasels.

At certain times of the year large parties of these determined raiders, consisting of anything up to forty members, will hunt in packs. In the late summer they may consist of the parents and eight or ten youngsters, but these are seldom seen, for on the approach of a human being they slink into cover.

But the hunger pack of these miniature wolves is a different problem. It is far better to stand still and allow them to pass on their way unmolested, for they will not fail to attack any creature which stands in their path. They may be trailing a rabbit or a hare, and so keen are they in following the scent that they will travel for miles. Although the hunted creature may hide in hedges or clumps, the relentless pack will, time after time, creep up, until their prey is so scared that it will go to ground, or thrust its head into a thick mass of grass. Then the pack closes in and one more creature of the wild is doomed."

NOTES.

Date of the Commentary on Naisadhakavya by Candupandita.

BY P. K. GODE, ESQ., M.A.

AUFRECHT in his "Catalogue of MSS.," Vol. I, p. 177, states that Caṇḍupaṇḍita wrote his commentary on the Naiṣadhakāvya of Srīharṣa in 1456 under Sanga, Chief of Dholka. Further he reports the same date for this commentary on page 306.

The Government MSS. Library at the Bhandarkar Oriental Research Institute contains two Manuscripts of the Naiṣadhīyadīpikā by Caṇḍupaṇḍita :—(No. 16 of 1874-75) which is dated Saṁvat 1473, *i.e.*, A.D. 1417, and (No. 415 of 1887-91) which is dated 1442, *i.e.*, A.D. 1386.

If these dates of the MSS. are regarded as genuine, they conflict with Aufrecht's date, A.D. *1456*.

Now if we have a copy of the Naiṣadhīyadīpikā in A.D. 1386, presumably the *terminus ad quem* for the date should be 1386 and not 1456 as stated by Aufrecht.

REVIEWS.

Report of the Mysore Archæological Department for 1926.

THE report for 1926 published under the University of Mysore by Dr. R. Shama Sastry is one of the most important and interesting documents we have perused during the past many years. It is gratifying to observe that at long last, the Ancient Monuments Preservation Regulation became law in the State, twenty-two years after its enactment in British India; we must note, however, that action in the spirit of that enactment has always been taken by the Mysore Durbar whose interest in the conservation of our ancient monuments is so well-known. We trust proposals, as contemplated, under the Regulation will soon be made and the numerous interesting and valuable monuments for which Mysore is justly so famous will be preserved even better in the future than in the past.

Departmental tours were undertaken during the year, though one would wish, they were a little more extensive. Exploration work of any importance does not appear to have been done, though plenty of such work is near at hand. No attention seems to have been given for excavation work, which is a crying need, if we are to appraise properly the value of our ancient treasures. We are glad, nevertheless, some interest is evinced by the revenue officers; we hope with the government that there will be a visible improvement in their inspection work. We hope, too, that like their compeers in British India, some of them at least will earn imperishable renown by their researches into our antiquities.

One hundred and twenty-five new Epigraphical records from 9th to 19th centuries A.D. were collected during the year. Of these 116 are in stone, eight are copper plate grants and one is a *nirupa* on paper. The oldest is a stone inscription of Ranavaloka Kambayya at Melagani in the Avani Hobli of the Mulbagal Taluk in the Kolar District, a *facsimile* of which is given in plate XI opposite page 88 of the Report. Dr. Shama Sastri suggests, from a comparison with other records and from paleographic evidence that Kambayya referred to must be the son of Dharavarsha, the Rashtrakuta king and that he was ruling over the Gangavadi 96,000 in A.D. 802–807.

The image of Keshava in the temple of Kausika, six miles south of Hassan, is about six feet high and is one of the finest figures yet witnessed. The Channakeshava temple at Hirekadalur was mentioned in the Report for 1909 but it was during the past year that it was inspected in detail. Thanks to the intervening sixteen years, the temple is now all in ruins. A beautiful image of Ranganatha had been carried away by a vandalistic revenue officer about 1899. The ceilings in the temple are very beautifully carved, being different in design and workmanship from each other.

Dr. Shama Sastry says he has secured a metallic image of the celebrated Vishnuvardhana from the Archaks of Belur who were so far unwilling to bring it

before the public. The image, he says, is a foot and a half in height, standing on a pedestal. The hair is wound into a knot behind the head, according to the 'Vaishnavite' custom. The figure is highly adorned with ear-rings, necklaces and ornaments. A sheathed sword is suspended from the girdle on the left side and a dagger on the right side. On the image, discus, conch and certain lines and circles are drawn on the palm of the hand, fingers and legs indicating great fortune. The figure is photographed [see Plate IX].

From what materials exactly is the figure identified with the great Bittideva? Is Dr. Shama Sastry certain the image is not one of the *Utsavamurthis* of the temple? Further, is it not likely to be the representation of some Vaishnava saint? Previous references to any image of Vishnuvardhana are not given. We find in Vol. VIII, p. 111 of the *Quarterly Journal of the Mythic Society* the following: "Regal dress at the time can be gleaned from a stone slab in the Kappechanniga-rayaswami temple at Belur, where the figures are supposed to represent Vishnu-vardhana and his favourite consort. A cone-shaped cap covered the head of Vishnu up to the ear and a robe flows down to the feet with another cloth thrown over it. Santaladevi is very richly decorated and has large ear-rings with four diamonds in each." It is to be hoped other references will be available, if any, to identify the copper image.

The most important subject dealt with in the report, *viz.*, the identification of the 'barbarian language' in the Greek farce of the 2nd century discovered at Oxyrhyneus in Egypt will be discussed in detail separately. It only remains to refer to the Svayambhupurana, a Sanskrit work of A.D. 1798 which refers to the spread of Buddhism mixed with Saivism in Nepal. It is said to refer to the Chinese traveller Prahūṇaka, who visited Nepal and who was no other than Fa Hien. The Nepalese chronicle also seems to refer to a Karnata dynasty in Nepal. "A Karnata king called Nanyadeva conquered the whole country in Sravan Sudi 7 of Nepal Samvat 9 or Saka Samvat 811, *i.e.*, 889 A.D. He is said to have ruled at Bhatgam and succeeded by his son Gangadeva who was followed by Narasimhadeva, his son." Dr. Shama Sastry naturally seems inclined to suggest that Nanyadeva may be Nanniyadeva, Bhatgama being Bhutuga grama. That would give A.D. 938–953, with reference to Ganga History. Dr. Shama Sastry discusses the date of the Katantra grammar and considers it must have been written during the close of the Andhras in the 3rd century A.D. The interesting report finally considers in detail a Sanskrit manuscript (No. 2380) of 57 palm leaves, addressed to an anonymous pandit whose views on certain Vaishnavite customs and especially on caste were therein controverted. In concluding with this rather long review, we regret to have to observe, with the reviewers in the *Asiatic Quarterly* that Dr. Shama Sastry's splendid work deserves to be printed better and on thicker paper.

S. S.

Sri Krishnaraja Silver Jubilee Souvenir.

(*The Trades Publicity Corporation, Ltd., Bangalore: Rs. 5.*)

THE twenty-five years of beneficent administration of Krishnabhupala was fitly celebrated last August in Mysore and throughout the State. A number of works were published on the occasion by a grateful public. Of these, one has a more than ordinary interest for members of the Mythic Society. Apart from its being edited by our Secretary, when the book was sent to me for review, it struck me that it required a somewhat detailed treatment. The volume under review is rich in matter and very suggestive in its contents. The get-up is excellent and execution very good. My object here is however to deal with it so as to excite the curiosity of patriotic Mysoreans to what there is in Mysore and to influence, if I may, a few of the highly talented of its people to write an authentic and up-to-date history of Mysore.

The work is dedicated, quite appropriately, to the great and saintly ruler of the State, on the auspicious and memorable occasion of the Silver Jubilee of his historic reign. The publishers, The Trades Publicity Corporation, Ltd., have referred in high terms of praise to Mr. S. Srikantaiya's qualifications for undertaking a work of this kind and what I know of him for over two decades impels me to admit that he more than deserves them.

I may be pardoned, if I should take pride in the fact, that I was the first to discover Mr. Srikantaiya. About twelve years ago, I have had the pleasure of reading, in manuscript, the result of his researches into the tangled web of Hoysala history and then I thought that Rev. Father Tabard was unerring, as usual, in his judgment of men and in his selection of young men for the country's cause. His papers on "Hoysala history" were warmly appreciated and are to-day reckoned amongst the finest contributions to the subject. Readers of the Mythic Journal are not unaware of the patient work he has been doing ever since.

I am referring to these details, not that it is necessary for the purpose of canvassing appreciation for the Souvenir—that can stand on its own merits—but for a quite different one. Several years ago, Father Tabard, Mr. Srikantaiya and myself happened to be talking, one evening, under a shady tree of the well-kept garden of the Mythic Society. The Father keenly deplored the absence of a reliable history of Mysore, though, as he passionately averred, materials were not wanting to write such a history. If scholars like Rao Bahadur R. Narasimhachar, Dr. R. Shama Sastry and Dr. S. Krishnaswamy Iyengar were afforded the facilities, which were necessary, a monumental history of Mysore could be produced. Oh, the selfless clergyman proceeded, if there could be established a University in Mysore, the first thing to do would be to endow of a chair for Mysore history in the University, the subject to be treated on a scientific and cultural basis. The outside world would then know the part Mysore has played in ages gone by. One portion of this dream was realized and Father Tabard was a Fellow of the University of Mysore ever since its inception. No chair for Mysore

history was, however, created. Nevertheless, the friends and admirers of Father Tabard endowed a medal in the University for a successful essay on any of the subjects with which the Mythic Society was interested. It has, however, to be regretted that Mysore history as such has not yet come to command the affection of Mysoreans in their own University. As Father Tabard used constantly to assert, there is not another kingdom than Mysore which has such an unbroken chain of continuous history behind it in India and the history of Mysore as a time reflex, of its present eminence, in days of yore, was no less great in every field of human activity—political, religious or social. In the first six pages of the Souvenir, Mr. Srikantaiya has just sketched an outline of its political history, as introduction to the present theme. A similar account relating to the religious as well as social history of Mysore is a very great desideratum.

When the Mythic Society induced that prince of patriots, Sir M. Visvesvaraya, to preside over one of its annual meetings, the latter made a few most stimulating observations which overjoyed Father Tabard. That statesman's clarion call to the scholars of Mysore to write its history in Kannada was universally appreciated, though even to-day the response is unfortunately lacking. Except the hobby-hunter, the professional scholar is poor; the encouragement he gets for a work of this kind is comparatively insignificant; the facilities he gets are infinitesimal. If in the end he gets through the work, he must face the printer and publisher his bills from the start. Besides, there is little chance of a generous public recognizing any merit in the work. He cannot influence the Text Book Committees to give him a chance by prescribing it as a text. For such work, the old State encouragement must come and in ample measure.

I well recollect another occasion when Father Tabard discerned merit in a clever young man. The Rev. Mr. Vanes read a paper on coins. The President put a few questions at the end, in his inimitable manner, to the audience. One among them answered them all. Father Tabard was very much pleased at the time. That young man was selected by our distinguished Vice-Chancellor for Oriental studies abroad and he is now the Professor of Culture History in the University of Mysore. Those of us who are acquainted with Dr. M. H. Krishna Iyengar know what a genial man and sound scholar he is. Mr. B. Puttaiya, the Superintendent of the Government Press, was another scholar who attracted the attention of our President. Mr. S. K. Narasimhaiya, an enthusiastic merchant of Bangalore wrote a life of Kempe Gowda, one of the Magadi chiefs and to it was written a foreword by Father Tabard. He was an enthusiastic lover of Mysore and took it as a compliment in which he shared as a Mysorean, when Mons. Clemenceau extolled the beauties of Mysore during his visit.

I am so largely reminiscent of Father Tabard, because it is his ideal of duty that has set one of his beloved pupils to write the history of Mysore of these twenty-five years. Further, I should never weary in repeating the words of the Founder of the Mythic Society and exhorting students of history to continue to labour, however unpromising the rewards of research may be for the time.

The members of the Wesleyan Mission in Mysore have done a great deal for Mysore History and the Rev. E. W. Thompson, author of a History of India, is one of the foremost of them. Mr. C. Hayavadana Rao has been endeavouring, at the instance of the Government of Mysore, to bring up to date the *Gazetteer of Mysore*, published by the late Mr. Rice. In the Souvenir, which by the way is the first publication of its kind in Mysore, Mr. Srikantaiya appears to have anticipated him in so far as modern Mysore is concerned. It is also natural that as a Souvenir, the book has quite a modern air. There is less of criticism and more of an effort to compile, arrange and clearly set forth the state of things. Yet, even the short and hasty sketch of Mysore's early history given in the book is sufficient to indicate the rich treasures available in our inscriptions, etc., that await the patient researcher. If Mr. Srikantaiya had given a little more attention to the earlier history of Mysore, posterity would have been grateful to him, but the bulk of the book would have more than doubled. I am further conscious of the fact that as a dedication to the Sovereign on the occasion of the Silver Jubilee of the Maharaja's reign, it was mainly concerned with what was achieved during this period and what precedes is thus only an introduction which provides the setting for a proper appreciation of the work of the Maharaja for his country. Religion also, apparently for this reason, is referred to only casually and as many interesting items as possible are included in its pages. Mr. Srikantaiya has also succeeded in culling a symposium of opinions of eminent men of the world regarding the Maharaja; it is rightly one chorus of universal and generous testimony in which he is held all over the world. I would congratulate the enterprising editor for the illustrations in the book which include many rare and old paintings. Mr. P. Raghavendra Rao has rendered invaluable help by giving an account of His Highness' early life in the pages of the Souvenir.

I close with the fervent hope that a chair for Mysore History will be founded in the University of Mysore and an accurate and authentic history of our beautiful country will be ere long published in the language of the country and its people.

K. DEVANATHACHARIAR.

CORRESPONDENCE.

Salivahana Saka.

BY S. SRIKANTA SASTRI, ESQ., M.A.

APART from much that is not quite germane to the subject discussed, I gathered that Mr. Bakhle's conclusion as regards the early date of Nahapana knocks the bottom out of my theory. I submit that no such assertion is warranted. Mr. Bakhle believes that the epigraphic evidence of Nahapana's inscriptions and numismatic evidence of the Jogelthembi hoard prove an early date for Nahapana. Everybody who has had anything to do with paleographic and numismatic evidence will agree that it is dangerous to base our conclusions mainly on this. One case in point is that of Hermaios who, it had been believed for a long time, was immediately succeeded by Kadphises I. Mr. Rapson, however, now believes that at least three-quarters of a century must have elapsed between the two. It is a tacit assumption among epigraphists that no precise date can be arrived at by means of paleographic evidence alone. Mr. Bakhle merely asserts that Nahapana's inscriptions are dated in the Vikrama era.

This is impossible for two reasons. As has been pointed out, the Nasik inscriptions of Nahapana refer to the coin Kushana which could have come into existence only when the Kushana kings had acquired power about 70 A.D. Secondly, Ushavadatta, the son-in-law of Nahapana, calls himself a Saka and hence it might be reasonably conjectured that Nahapana himself was a Saka and so also his minister Ayama though the names of Ayama and Ushavadatta already show that the foreigners were being Hinduized. The Kshaharatas and Kshatrapas were of a kindred stock. Every scholar has tacitly recognized the assertion that all Kshatrapa dates are in the Saka era, though there is no absolute proof of it. In view of Dr. Shama Sastry's ante-dating of the Gupta era, the hitherto accepted chronology of the Kshatrapas becomes ricketty. But the probability, not certainty, is that we can accept them as Saka dates, because their original stock was Saka as asserted by Ushavadatta. Therefore the forty-sixth year of Nahapana must be 124 A.D.

Mr. Bakhle states that Nahapana had several successors and the last of his line was defeated by Gautamiputra. We cannot believe that his successors kept the same legend on the coins through generations without introducing their own names, however insignificant and however strong their affections for the founder. That Nahapana himself was overthrown by Gautamiputra is conclusively proved, in my judgment, by the fact that out of the large number of coins of the Jogelthembi hoard, not one is that of any other prince than Nahapana. Therefore Gautamiputra cannot be placed in 78 A.D. Bala Sri, who magnified and extolled the valour of her progenitors, would certainly not have omitted to mention the important fact of Gautamiputra's authorship of the Sakari era. Nothing is

proved by the fact that the Andhan Inscription of year 52 refers to Saka era while that of the Satavahanas mention only regnal years. It was incumbent upon the subordinate Kshatrapas to use the era of their masters—the Satavahanas. It was Rudradaman that became independent about 150 A.D. by defeating their hereditary masters. That there is no explicit reference to the Salivahana era in the early inscriptions need not surprise us. The Kshatrapa dates have been understood to be in that era. It is only very late in the Gupta period that we find mention of Gupta-kala. According to our chronology Rudradaman in the year 130 A.D. could not but use the Saka era of the Andhras to placate Gautamiputra who only six years before had inflicted a heavy defeat on the Saka Kshaharatas. We cannot believe that nearly 120 years passed by (40 B.C. to 78 A.D.) between the dates of Nahapana and Gautamiputra and that the Kshaharatas left us inscriptions only down to the third generation. Therefore the attempts to ante-date Nahapana by a century and Gautamiputra by half a century seem to be futile.

The Fifth All-India Oriental Conference, University Hall, Lahore.

THE Fifth All-India Oriental Conference will be held at Lahore in November, 1928. Members of the Mythic Society who are desirous of attending the Conference as delegates of the Society are requested to communicate with the undersigned as soon as possible as the names will have to be sent to the Secretary of the Conference at an early date.

The Conference will be divided into a number of sections, including sections for the vernaculars of the Punjab. There will be a concert of classical Indian Music, a Mushai'ra, and representation of a play in Sanskrit. Excursions to places of historical interest like Taxila and Harappa will also be arranged.

The undersigned also requests members to inform him if they desire to read any papers before the Conference. If so, the paper in full together with a short summary should be sent so as to reach him not later than 1st March, 1928. This is particularly requested for the University of Punjab remains closed for the Summer vacations from June till the end of September, and all arrangements for printing the volume of summaries are therefore to be made before the University is closed for the summer vacations.

S. SRIKANTAIYA,
General Secretary, Mythic Society,
Bangalore.

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3. Archæological Survey of India, New Imperial Series Vol. L.: Antiquities of Indian Tibet by A. H. Franke, Part (Vol.) II.

Government of Bihar & Orissa—

Journal of Francis Buchanan kept during the Survey of the District of Shahabad in 1812-1813. Edited by G. E. A. W. Oldham, C.S.I.

Government of Mysore—

Proceedings of the Mysore Legislative Council: Budget Session, June 1927.

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The Shrine of Wisdom, London—

A Synthesis of the Bhagavadgita by the Editors.

Asia Major, Leipzig—

Verlogskatalog N. 1: Asia Major, 1920–27.

Mahabodhi Society, Calcutta—

Mahabodhi Pamphlet Series No. 7: The Religion of Asoka by Dr. Beni Madhab Barua.

Prof. Frank R. Sell, M.A., Vice-President of the British and Foreign Bible Society (Bangalore Auxiliary).—

1. The Holy Bible.
2. Bhim Singh.

Asiatic Society of Bengal—

Memoirs of the Asiatic Society of Bengal, Vol. X, No. 2, pp. 133-426: Studies in Santal Medicine and Connected Folklore by the Rev. P. O. Bodding.

University of Mysore—

1. Kannada Kaipidi, Vol. I.
2. The Calendar for the Year 1927-28.
3. Supplement to Volume I of the Calendar for 1926-27.

By Purchase—

1. Ancient Persia and Iranian Civilizations by Clement Huart.
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4. History of Sanskrit Literature by Weber.
5. Report of the Administration of Mysore by Major M. Wilks. Printed under order in 1804.

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17. "MAN," *The Royal Anthropological Institute, London.*
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30. "MYSORE BLUE BOOK AND PUBLICITY JOURNAL," *Bangalore.*
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32. "KARNATAKA SAHITYA PARISHATPATRIKA," *Bangalore.*
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34. "YOGAMIMAMSA," *Kunjavana, Lonavla, Bombay.*
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